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F. Villablanca

1988-93

General Index

Catalogue

Specimen #1-300

Journal

1988 Calif: San Luis Obispo Co.

Calif: Kern, Inyo Cos.

Calif: San Bernadino, Inyo Cos.

1989 Chile: Santiago to Puerto Montt

1990 Calif: Los Angeles Co.

Calif: San Joaquin Co.

Calif: Plumas Co.

1991 Calif: Monterey Co.

Calif: San Luis Obispo Co.

1992 Calif: San Bernadino Co.

Calif: Fresno, San Bernadino, Riverside Cos.

Calif: Yolo Co.

Calif: Tehama Co.

Species Accounts

Topo maps of Collecting Localities

F. Villalobos

1988-93

General Index

Analogue

Specimen #1-303

Journal

1988-1993 San Luis Obispo Co.

Camp, 1988-1993

Camp, 1988-1993

1988-1993 San Luis Obispo Co.

1988-1993 San Luis Obispo Co.

Camp, 1988-1993

Camp, 1988-1993

1988-1993 San Luis Obispo Co.

Camp, 1988-1993

1988-1993 San Luis Obispo Co.

Camp, 1988-1993

Camp, 1988-1993

Camp, 1988-1993

Species, 1988-1993

Types of collecting localities

F. Villablanca
1988-93

Catalogue

Specimen #1-300

Villalobos
1988

Catalog

Junction Hwy 116 and Martinelli Rd, Sonoma
Co, California

7 Feb 1988

1 ^{WH} Scapanus latimanus 123-23---20

Captive Stock, Born 18 Oct 1987, Killed 12 April
1988; Source pop - Nipomo, San Luis Obispo
Co. California

12 April 1988

2 ♂ Dipodomys hermanni arenae ^{Testes 12x6mm caudapipidimus dev.} 250-146-39-13 = 58y

U.C. Richmond Field Station, Alameda
Co. California

31 July 1988

3 Microtus californicus

4 Microtus californicus

5 Microtus californicus

6 Microtus californicus

7 Microtus californicus

8 Microtus californicus

West Slope Walker Pass 4600 ft, Kern
Co. California

17 Sept 1988

9 ^{line A2 ear tissues only} Dipodomys panamintinus mohavensis ^{♀ imper} 104-150-41-11

10 ^{line A17 ear tissues only} Dipodomys panamintinus mohavensis ^{♀ imper} 94-152-39-11 = 46

11 ^{line A26 ear tissues only} Dipodomys panamintinus mohavensis ^{♂ TND} 96-167-42-13 = 62

12 ^{line A36 ear tissues only} Dipodomys panamintinus mohavensis ^{♀ im} 102-154-40-12 = 61

13 ^{line B32 ear tissues only} Dipodomys panamintinus mohavensis ^{♀ imp} 104-156-39-13 = 68

14 ^{line B25 ear tissues only} Dipodomys panamintinus mohavensis ^{Rump} 98-153-41-12 = 66

Villalobos

1988

Catalog

West Slope Walker Pass, Kern Co.,

Calif. 4600 ft

17 Sept 1988

- 15 ♂ TND ear tissue only - line B23
Dipodomys panamintinus moharensis 102-162-40-11=75
- 16 ♀ imp. ear tissue only - line B13
Dipodomys panamintinus moharensis 102-153-40-11=62
- 17 ♀ imp. ear tissue only - line D12
Dipodomys panamintinus moharensis 93-152-40-13=48
- 18 - ear tissue only - line D13
Dipodomys panamintinus moharensis -
- 19 - tail tissue only - line D14
Dipodomys panamintinus moharensis -
- 20 ♀ imp. ear tissue only - line D21
Dipodomys panamintinus moharensis 94-154-41-12=62
- 21 ♂ TND ear tissue only - line D24
Dipodomys panamintinus moharensis 108-162-43-12=74
- 22 - ear tissue only - line D26
Dipodomys panamintinus moharensis -
- 23 ♀ imp. ear tissue only - line D32
Dipodomys panamintinus moharensis 87-146-35-10=64
- 24 ♀ imp. ear tissue only - line D34
Dipodomys panamintinus moharensis 97-177-41-13=66
- 25 ♂ T=5x2 + tissues - line A3
Dipodomys panamintinus moharensis 98-174-42-13=60
- 26 ♂ T=6x2 + tissues - line A10
Dipodomys panamintinus moharensis 103-183-46-12=60
- 27 ♂ T=5x2 + tissues - line A12
Dipodomys panamintinus moharensis 110-161-43-12=63
- 28 ♀ imp, ovary not dev, no scars + tissues - line A17
Dipodomys panamintinus moharensis 113-162-42-13=65
- 29 ♀ imp, ovary not dev, no scars + tissues - line A23
Dipodomys panamintinus moharensis 105-159-41-13=53
- 30 ♀ imp, ovary not dev, no scars + tissues - line A30
Dipodomys panamintinus moharensis 110-170-43-12=55
- 31 ♂ T=4x2 + tissues - line A32
Dipodomys panamintinus moharensis 106-150(bobbed)-43-13=55
- 32 ♂ T=5x2 + tissues - line A37
Dipodomys panamintinus moharensis 112-183-42-13=66
- 33 ♂ T=5x2 + tissues - line A38
Dipodomys panamintinus moharensis 111-180-42-13=62
- 34 ♂ T=4x2 + tissues - line B1
Dipodomys panamintinus moharensis 110-168-42-13=57
- 35 ♀ imp, ovary not dev, no scars + tissues - line C3
Dipodomys panamintinus moharensis 114-180-42-13=55
- 36 ♀ imp, ovary not dev, no scars + tissues - line C10
Dipodomys panamintinus moharensis 112-173-42-13=55
- 37 ♂ T=5x2 + tissues - line C11
Dipodomys panamintinus moharensis 110-170-42-14=49
- 38 ♀ imp, ovary not dev, no scars + tissues - line C15
Dipodomys panamintinus moharensis 111-144(bobbed)-41-12=47

Shalimar
1988

Catalog

West Slope Walker Pass, Kern Co, Calif

4600 ft

17 Sept 1988

- ♂ T=5x2 +tissues -line C18
39 *Dipodomys panamintinus mohavensis* 112-170-42-13=52
- ♂ T=4x2 +tissues -line C19
40 *Dipodomys panamintinus mohavensis* 110-123(bobbed)-42-13=50
- ♀ imp, ovary not dev, no scars +tissues -line C27
41 *Dipodomys panamintinus mohavensis* 108-166-43-14=45
- ♀ imp, ovary not dev, 6 scars; 4rt, 2 left(3,3) +tissues -line C34
42 *Dipodomys panamintinus mohavensis* 120-168(bobbed)-43-15=60
- ♀ imp, ovary not dev, 3 scars; (2rt, 2left) +tissues -line C36
43 *Dipodomys panamintinus mohavensis* 113-164-41-13=58
- ♂ T=5x2 +tissues -line C38
44 *Dipodomys panamintinus mohavensis* 113-171-42-13=55
- ♀ ovaries not dev, imp, no scars +tissues -line B30
45 *Dipodomys panamintinus mohavensis* 112-160-43-13=47
- ♀ imp, ovaries not dev, 3 scars (2rt, 1left) +tissues -line B24
46 *Dipodomys panamintinus mohavensis* 115-155-43-13=56
- ♂ T=6x2 +tissues -line B4
47 *Dipodomys panamintinus mohavensis* 121-180-43-14=61
- ♂ T=5x2 +tissues -line B15
48 *Dipodomys panamintinus mohavensis* 112-161-41-13=48
- ♀ imp, ovaries not dev, 3 scars (2rt, 1left) +tissues -line B18
49 *Dipodomys panamintinus mohavensis* 118-176-42-13=56
- ♂ T=4x2 +tissues -line B19
50 *Dipodomys panamintinus mohavensis* 112-170-43-13=49
- ♀ imp, ovaries not dev, 4 scars (2rt, 2left) +tissues -line D4
51 *Dipodomys panamintinus mohavensis* 116-168-42-13=54
- ♂ T=4x2 +tissues -line D17
52 *Dipodomys panamintinus mohavensis* 116-171-43-14=55
- ♂ T=4x2 +tissues -line D35
53 *Dipodomys panamintinus mohavensis* 108-164-42-13=45
- ♂ T=4x2 +tissues -line D38
54 *Dipodomys panamintinus mohavensis* 114-169-42-13=53

^{1.8}
8 miles NE Jackson Spring, Inyo Co,
California. 6820 ft. 1 Oct 1988.

Panamint Mountains

- ♂ T=7x3 +tissues (bobbed) -line C29
55 *Dipodomys panamintinus panamintinus* 140-182-48-16=84
- ♂ T=8x3 +tissues -line C22
56 *Dipodomys panamintinus panamintinus* 130-184-44-16=73
- ♂ T=5x2 +tissues -line B3
57 *Dipodomys panamintinus panamintinus* 125-172-43-14=72
- ♀ imp, ovaries not dev, 3 faint scars (2rt, 1left) +tissues -line B18
58 *Dipodomys panamintinus panamintinus* 124-190-46-16=71
- ♂ T=4x2 +tissues (bobbed) -line B19
59 *Dipodomys panamintinus panamintinus* 120-155-44-15=64



1988

Catalog

1.8 miles NE Jackson Springs, Inyo Co. Panamint Mountains

Calif. 6820 ft. 1 Oct 1988

- 60 ♂ T=9x4 caudal ep. not dev. + tissues (babbled) - Line B30
 Dipodomys panamintinus panamintinus 122-160-46-16=82
 61 ♂ T=7x3 caudal ep. not dev. + tissues - Line A12
 Dipodomys panamintinus panamintinus 120-180-45-16=74
 62 ♂ T=5x2 + tissues - Line B33
 Dipodomys panamintinus panamintinus 121-171-44-15=63

1.8 Miles NE Jackson Springs, Inyo Co. Panamint Mountains

Calif. 6820 ft.

2 Oct 1988

- 63 ♂ T=6x4, caudal ep. not dev. + tissues - Line A32
 Dipodomys panamintinus panamintinus 121-175-44-14=68
 64 ♀ imp, ovary not dev., 6 scars; 4rb, 2 (ft (3,3)) faint + tissues (babbled) - Line B23
 Dipodomys panamintinus panamintinus 132-155-46-16=71
 65 ♂ T=6x2 + tissues (babbled) - Line C23
 Dipodomys panamintinus panamintinus 120-145-45-16=61
 66 ♂ T=10x8 caudal ep. not dev. + tissues (babbled) - Line E17
 Dipodomys panamintinus panamintinus 122-170-44-14=70
 67 ♂ T=7x3 caudal ep. not dev. + tissues - Line E3
 Dipodomys panamintinus panamintinus 121-165-44-14=68

6. mi. S. Granite Wells, Providence Mts

San Bernardino Co, Calif. 3800 ft. 21 Oct 1988

- 68 ♀ No Scars + tissue - Line A5
 Dipodomys panamintinus caudatus 124-186-44-15=67
 69 ♀ No Scars - Line A8
 Dipodomys panamintinus caudatus 128-163-42-15=74
 70 ♂ T=5x3 - Line A33
 Dipodomys panamintinus caudatus 120-184-45-14=69
 71 ♂ T=5x3 - Line A40
 Dipodomys panamintinus caudatus 121-183-45-15=68
 72 ♂ T=5x2 - Line B17
 Dipodomys panamintinus caudatus 122-188-46-15=76
 73 ♀ No Scars - Line B23
 Dipodomys panamintinus caudatus 120-182-42-15=62
 74 ♀ 2 left; 1 right faint - Line B33
 Dipodomys panamintinus caudatus 124-178-45-16=66
 75 ♀ No Scars - Line B34
 Dipodomys panamintinus caudatus 116-178-44-15=66
 76 ♀ No Scars - Line D4
 Dipodomys panamintinus caudatus 123-175-46-15=67
 77 ♂ T=5x2 - Line E7
 Dipodomys panamintinus caudatus 119-176-45-15=73
 78 ♀ 2 left, 1 right, faint - Line C5
 Dipodomys panamintinus caudatus 118-178-45-15=71
 79 ♂ T=6x3 - Line D19
 Dipodomys panamintinus caudatus 116-169-44-15=68

catalog

6 mi. S. Granite Wells, Providence
Mtns, San Bernardino Co. Calif.
3800 ft

21 Oct 1988

- 80 ♀ No Scars, ovary not dev + tissues (balled) Line C10
Dipodomys panamintinus caudatus 113-156-45-14=62
- 81 ♀ No Scars, ovary not dev + tissues Line C26
Dipodomys panamintinus caudatus 112-184-42-15=58
♂ T=7x4 + tissues Line D16
- 82 Dipodomys panamintinus caudatus 130-184-47-15=79
- 83 ♀ Scars; 2rt, 1lf, faint, ovary not dev + tissues Line D9
Dipodomys panamintinus caudatus 120-186-46-14=71
♂ T=9x4 + tissues Line C3
- 84 Dipodomys panamintinus caudatus 124-170-45-15=79
- 85 ♀ no scars, ovary not dev + tissues (balled) Line D14
Dipodomys panamintinus caudatus 125-165-45-15=70
- 86 ♀ no scars, ovary not dev + tissues Line C14
Dipodomys panamintinus caudatus 122-168-44-15=73
♂ T=5x2 + tissues Line D22
- 87 Dipodomys panamintinus caudatus 123-190-47-15=69

3.0 mi NE Jackass spring, Panamint
Mtns, Inyo Co, Calif. 6600 ft.

23 Oct 1988

- 88 ♀ no scars, ovary not dev + tissues Line D3
Dipodomys panamintinus panamintinus 115-174-43-15=54
♂ T=5x2 + tissues (balled) Line E14
- 89 Dipodomys panamintinus panamintinus 119-138-44-15=68
- 90 ♀ no scars, ovary not dev. + tissues Line E9
Dipodomys panamintinus panamintinus 120-180-44-15=62
♂ T=5x3 + tissues Line D39
- 91 Dipodomys panamintinus panamintinus 120-175-44-14=60
- 92 ♀ no scars, ovary not dev + tissues Line F11
Dipodomys panamintinus panamintinus 122-174-44-14=63
♂ T=4x2 + tissues Line F5
- 93 Dipodomys panamintinus panamintinus 116-177-43-14=60
- 94 ♂ T=8x4 + tissues (balled) Line C24
Dipodomys panamintinus panamintinus 122-145-44-14=68
- 95 ♀ no scars, ovary not dev. + tissues Line B11
Dipodomys panamintinus panamintinus 111-185-42-14=54
- 96 ♀ 3 faint scars, ovary not dev + tissues Line D10
Dipodomys panamintinus panamintinus 120-120-44-15=60 (balled)
- 97 ♀ no scars, ovary not dev + tissues Line F20
Dipodomys panamintinus panamintinus 115-170-43-15=54
- 98 ♀ no scars, ovary not dev + tissues Line C39
Dipodomys panamintinus panamintinus x-175-42-x=x
- 99 ♂ T=5x2 + tissues Line A40
Dipodomys panamintinus panamintinus 113-178-43-14=60



Hablanca
1988

Catalog

3.0 mi NE Jackass Spring, Panamint
Mtns., Inyo Co., Calif., 6600 ft.

23 Oct 1988

- 100 ♂ T=5,3 + tissues Line D19
Dipodomys panamintinus panamintinus 126-175-46-15=62
101 ♀ no scars, ovaries not dev. + tissues Line 86
" " " " X-172-44-X=X

6.0 mi S. Granite Wells, Providence
Mtns., San Bernardino Co. Calif.
3800 ft

21 Oct 1988

- 102 ♂ T=11,7 caud epid. dev. + tissues Rep=May 1990
Dipodomys panamintinus caudatus 297-174-47-14=59g
~~1.2 mi S. Chalk Peak, Monterey Co~~



110. Blanca
1990

Catalog

1 Km E. Owens River + 1/2 Km S. Hwy 168

Inyo Co., Calif., 4000 ft

20 April 1990

- 103 ♂ T=8x4 skel + tissues Prep=May 1990
Dipodomys microps microps tail tip gone 258-130-40-12=58
- 104 ♂ T=9x5 caud epid. dev skel + tissues (No skin) Prep=May 1990
" " " tail tip gone 218-109-37-13=45
- 105 ♀ Scars=1 Lft, 1 Rt. Ovary not dev. skel + tissues Prep=May 1990
Dipodomys merriami merriami tail tip gone 219-116-32-12=27
- 106 ♀ No scars. Ovaries + uteri dev. skel + tissues Prep=May 1990
" " " 254-146-37-14=40
- 107 ♀ Scars=1 Lft, 1 Rt. Ovary Dev. skel + tissues Prep=May 1990
" " " 236-134-33-12.5=33

1/2 mi W. Hwy 1 + 1/2 mi SSE. White Lake,

Nipomo Mesa, San Luis Obispo Co. Calif

22 May 1990

Born 13 Oct 1987 at Cal. Poly. State Univ.

San Luis Obispo

- 108 ♀ Scars=None skel + tissues (No skin) Died Dec 1989
Dipodomys heermanni arenae 265-150-38-14=33
- 109 ♀ Scars=None Ovary dev skel + tissues
" " " 280-157-39-16.5=52

1 Km E. Owens River + 1/2 Km S. Hwy 168

Inyo Co., Calif., 4000 ft

5 June 1990

- 110 ♂ T=5+3 skel + tissues
Dipodomys microps microps 260-147-42-13=44

1 mi. N Hwy 62, on Ironage Rd, 1 mi W

Dale Dry Lake, San Bernardino Co

Apr 1989

- 111 ♂ 9x3 + tissues, chrom, part. skel Prep Aug 1990
Dipodomys merriami 233-120-42-13=50
- 112 ♀ No scars + tissues, chrom, part. skel
" " 225-150-38-13=42
- 113 ♀ No scars + tissues, chrom, part. skel
Dipodomys deserti banded tail 300-160-53-14=92
- 114 ♀ No scars + tissue, chrom, part. skel.
" " banded tail 200-60-52-16=78

Villablanca
1990

Catalog

1.3 mi N and D. 2 mi E Chilcoat, Plumas
Co., Calif., 5200 ft

22 Sept 1990

	♀ Scar = 2 Lt	Skel + tissues	
115	Dipodomys panamintinus leucogenys	tail banded	264 - 144 - 46 - 14 = 58.0
	♂ T = 6x4	"	
116	" " "	tail banded	260 - 135 - 46 - 14 = 59.0
	♂ T = 5x3	"	
117	Dipodomys ordii columbianus		245 - 135 - 40 - 12 = 45.0
	♂ T = 4x3	"	
118	Dipodomys ordii columbianus		238 - 130 - 39 - 12.5 = 41.0
	♂ T = 4x3	"	
119	" " "		253 - 135 - 40 - 13.0 = 47.0
	♀ Post Estrous (Vag Cast) Scars = 2 Lt + 1 Rt. Lact	"	
120	" " "		235 - 127 - 39 - 12.0 = 38.0
	♀ Scars = None	"	
121	Dipodomys panamintinus leucogenys		291 - 178 - 45 - 14 = 58.0
	♀ Scar = 2 Lt, 1 Rt	"	
122	" " "		294 - 166 - 45 - 15 = 64.0
	♀ Scars = 2 Lt, 1 Rt	"	
123	" " "		307 - 176 - 45 - 14 = 61.0
	♂ T = 3x2	"	
124	" " "		304 - 175 - 48 - 14.5 = 69.0
	♂ T = 5x3	"	
125	" " "		298 - 164 - 45.5 - 14 = 65.0
	♂ T = 5x3	Skel + tissue + chrom	
126	" " "		303 - 172 - 47 - 14.5 = 68.0
	♀ 1 Emb Lt, 2 Emb Rt 5x2mm	"	
127	" " "		291 - 164 - 45 - 14.0 = 71
	♂ T = 5x3	"	
128	" " "		292 - 167 - 46 - 14 = 58
	♂ T = 9x4	"	
129	" " "		304 - 171 - 47 - 15 = 76
	♀ Scars = None	"	
130	" " "		279 - 152 - 45 - 14.5 = 50
	♀ Scars = None	"	
131	" " "		280 - 162 - 44 - 14 = 51
	♂ T = 9x3	"	
132	" " "		303 - 172 - 46 - 14.5 = 75

11.



Villablanca
1991

Catalog

1.2 mi. S. Chalk Peak, Monterey Co., Calif. 3250 ft.

7 April 1991

- | | | | |
|-----|---------------------------------------|-----------------------|--------------------------|
| 133 | ♀ Scar = 1 rt, Lac | Skel + Tissue + Chrom | |
| | <i>Dipodomys venustus santiluciae</i> | | 324 - 190 - 46 - 20 = 72 |
| 134 | ♂ T = 9 x 6 | " | |
| | " | " | 316 - 182 - 46 - 19 = 70 |
| 135 | ♂ T = 13 x 6 | " | |
| | " | " | 344 - 203 - 46 - 21 = 84 |
| 136 | ♀ No scars, highly vascularized | " | |
| | " | " | 322 - 186 - 46 - 20 = 76 |

3.1 mi. W. and 0.5 mi N. Tumbler peak, Elkhorn Plain, San Luis Obispo Co., Calif. 2500 ft

22 April 1991

- | | | | |
|-----|------------------------------------|----------------|--------------------------|
| 137 | ♀ Scars = 2 rt | Skel + tissues | |
| | <i>Dipodomys heermanni swarthi</i> | | 299 - 180 - 42 - 16 = 60 |
| 138 | ♂ T = 13 x 7 | " + " + chrom | |
| | " | " | 296 - 176 - 40 - 15 = 62 |
| 139 | ♀ 4 Embryos; 2 RT, 2 LB; 6 mm. | " | |
| | " | " | 304 - 176 - 41 - 15 = 55 |

Callander Substation, 7/10 mi S. Hwyl & 3/10 mi E. Railroad Tracks, Nipomo Mesa, San Luis Obispo Co. Calif. 120 ft

22 April 1991

- | | | | |
|-----|-----------------------------------|-----------------------|--------------------------|
| 140 | ♂ T = 11 x 7 | Skel + tissue + chrom | |
| | <i>Dipodomys heermanni aeneae</i> | | 291 - 171 - 42 - 15 = 44 |
| 141 | ♂ T = 12 x 7 | " | |
| | " | " | 285 - 164 - 41 - 16 = 49 |
| 142 | ♂ T = 7 x 4 can. ep. dev | " | |
| | " | " | 324 - 196 - 43 - 16 = 59 |

3.1 mi W. and 0.5 mi N. Tumbler peak, Elkhorn Plain, San Luis Obispo Co., Calif. 2500 ft

22 April 1991

- | | | | |
|-----|------------------------------------|-----------------------|--------------------------|
| 143 | ♂ T = 13 x 6 | Tissue + skel + chrom | Tail not bobbed |
| | <i>Dipodomys heermanni swarthi</i> | | 287 - 154 - 44 - 16 = 75 |

Villablanca
1991

Catalog

Callander Substation, $\frac{2}{10}$ mi S. Hwy 1 and $\frac{3}{10}$ mi E.
Railroad tracks, Nipomo Mesa, San Luis Obispo Co
Calif. 120 ft

22 April 1991

144

♀

Dipodomys heermanni arenae

part skel born 7 May 1991, died 3 June 1991

168-91-37-12=29

145

♀

part skel, no skin born ~24 April, died 4 June

168-91-37-12=29

Villablanc

1992

Catalog

6 mi. N, 1/2 mi E Lanfair, San Bernardino
Co. Calif. 4320ft.

22 March 1992

146	♂ TD = T = 12 Dipodomys panamintinus caudatus	+skel + tissue + chrom	B20	307-180-44-14 = 74	✓
147	♂ TD = T = 13	+skel + tissue + chrom	B20 B1	320-180-46-14 = 75	✓
148	♀ 4emb, 10 mm each	"	A17	305-175-43-14 = 76	✓
149	♀ 4emb, 6 mm each	"	B9	300-160-44-15 = 72	✓
150	♀ 4emb: 1 Rt 6mm, 3 Lt 4mm each	"	A9	310-175-44-14 = 78	✓
151	♂ T = 12	"	B7	300-170-46-15 = 90	✓
152	♂ T = 14	"	B10	310-175-46-15 = 84	✓
153	♀ 2 Rt, 1 Lt 12mm each	"	B17	314-175-45-14 = 86	✓
154	♀ ovaries enlarged + vascular, no scars	"	B3	297-165-45-15 = 67	✓
155	♂ T = 13	"	B6	310-172-44-15 = 82	✓
156	♂ T = 11	"	A8	305-170-46-15 = 86	✓
157	♂ T = 12	"	A1	320-180-44-15 = 80	
158	♂ T = 12	"	B16	301-170-45-16 = 82	

2 mi. W. and 5 1/2 mi. N. Lima, San Bernardino
Co., Calif. 5040ft.

26 March 1992

159	♂ T = 11 Dipodomys panamintinus caudatus	+skel + tissue + chrom	C9	297-168-42-15 = 70	
160	♀ Scars = 2 Lt, 1 Rt.	"	C5	290-160-44-14 = 63	
161	♀ ovaries not enlarged or scarred	"	C11	292-170-43-15 = 66	
162	♀ ovaries enlarged + vascularized	"	C2	298-172-44-14 = 65	
163	♂ T = 14	"	C16	298-170-44-16 = 81	
164	♀ ovaries not enlarged, no scars	"	C28	298-165-45-16 = 72	
165	♀ ovaries enlarged + vascularized	"	C34	297-174-43-14 = 64	
166	♀ ovaries not enlarged, no scars	"	C17	280-155-43-14 = 64	

Villablanca
1992

Catalog

2 mi. W. and 5 1/2 mi. N. Cima, San Bernardino
Co. Calif. 5040 ft.

26 March 1992

167	♀ Ovaries not enlarged, no scars	+skel + tissues	D26
	<i>Dipodomys panamintinus caudatus</i>	300-170-44-16 = 67	
168	♂ T=11	" "	D30
	" "	298-170-44-15 = 75	
169	♂ T=8	" "	D8
	" "	294-160- ⁴³ ~~42~~ -15 = 76	
170	♀ Ovaries Not enlarged, or scars	" "	C39
	" "	306-178-45-16 = 71	
171	♂ T=12	" "	D38
	" "	305-175-45-15 = 78	
172	♂ T=11	" "	D40
	" "	295-170-44-14 = 80	
173	♂ T=14	" "	D33
	" "	304-170-45-15 = 84	

2.5 mi. N. and 12 mi. W. Fairmont, Los Angeles
Co. Calif. 2840 ft. 16 and 17 July 1992

174	♂ T=4x2	+skel, tissue, chron	B10
	<i>Dipodomys panamintinus mohavensis</i>	298-170-43-14.5 = 70	
175	♂ T=9x4	" "	A17
	" "	294-167-41-14.5 = 69	
176	♂ T=5x2	" "	A9
	" "	291-166-43-14 = 75	
177	♂ T=5x3	+skel, tissue	A13
	" "	300-165-46-15 = 79	
178	♀ ovaries not enlarged, 2 Rt.	" "	A15
	" "	293-164-44-17 = 70	
179	♂ T=6x3	" "	A5
	" "	293-168-45-15 = 68	
180	♂ T=7x3	" "	A4
	" "	294-164-45-15 = 75	
181	♂ T=5x2	" "	B9
	" "	291-166-43-14 = 67	
182	♂ T=8x3	" "	B7
	" "	300-170-45-15 = 79	
183	♂ T=4x2	" "	A12
	" "	294-167-41-14 = 69	
July 1992 184	♂ T=6x3	" "	D7
	" "	308-175-45-14 = 73	
185	♂ T=8x3	"Tail broken	C15
	" "	270-140-46-15.5 = 83	
186	♀ ovaries dev. - no scars	" "	C14
	" "	300-175-42-15 = 62	
187	♀ ovaries dev. - no scars	" "	C2
	" "	300-178-45-15 = 64	
188	♂ T=5x2	" "	C8
	" "	303-175-45-14 = 74	



Villablanca
1992

Catalog

2.5 mi. N and 12 mi. W. Fairmont, Los Angeles Co.
Calif. 2840 ft

17 July 1992

189	♂ T=4x2	"	"	290-170-42-14=64	D10
190	♀ Ovaries not dev. - 2Rt 2Lt.	"	"	327-190-46-15=74	D3
191	♂ T=8x3	"	"	310-180-45-15=67	C10
192	♂ T=7x3	"	"	292-162-45-14=72	C5
193	♀ Ovaries not dev 2Rt 2Lt	"	"	Tail bob 225-100-44-14=62	C7

4 mi. W. and 1 3/4 mi. N. Lake of the
Woods, Kern Co., Calif. 5650

19 July 1992

194	♂ T=10x6	<i>Dipodomys agilis perplexis</i>	310-180-45-17=66	B5
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Walker Basin, 1.25 mi. S. Johns Peak,
Kern Co., Calif. 3600 ft

29 July 1992

195	♀ Ovaries not dev.	<i>Dipodomys agilis perplexis</i>	315-170-44-18=59	D20
196	♂ T=8x3	"	317-188-44-19=74	D10
197	♀ Ovaries not dev.	"	305-180-45-17=53	D1
198	♀ Ovaries not dev.	"	312-185-46-19=60	-
199	♂ T=7x3	"	309-180-44-18=62	C23
200	♀ Ovaries not dev.	"	314-190-47-18=59	A14
201	♂ T=10x6	"	304-180-46- =	A20

West Slope Sand Canyon, 2 mi. N.
Santa Clara River, 1900 ft
Los Angeles Co.

30 July 1992

202	♀ Ovaries dev, scars = 2Rt. 1Lt.	<i>Dipodomys agilis perplexis</i>	305-180-45-17=61	B3
203	♂ T=9x5	"	Tail bob 260-127-46-16=67	C14

Villablanca
1992

Catalog

West slope Sand Canyon, 2 mi. N.

Santa Clara River, Los Angeles Co. 1900ft

30 July 1992

204	♀ lac, 3 pups. Dipodomys agilis ~~perplexis~~ ^{agilis}	+ tissue, part. skel	295-179-44-17=55	C3
205	♂ T=4x2 " " "	" "	298-170-43.5-18=55	B19
206	♀ Ovaries not dev. scars=1R+1L " " "	Tail bobbed " " "	209-90-44-19=58	C10
207	♂ T=7x4 " " "	" " + chrom	285-160-43-18=64	A1
208	♂ T=6x3 " " "	" " "	30182-43-18=60	A12
209	♀ Ovaries not dev. Scars=2Rt, 1Lt. " " "	" " "	304- ~~204~~ -175-44-19=67	A4

6.1 mi. W. and 0.4 mi. S. Wheeler Springs, Ventura
Co. Calif. 1700ft.

31 July 1992

210	♂ T=10x5 Dipodomys agilis agilis	+ tissue, part. skel. Chrom	320-192-43-19=62	B18
211	♂ T=10x5 " " "	" " "	315-190-45-19=62	B9
212	♀ Ovaries not dev., scars=2Rt, 1Lt. " " "	tail bobbed 290-160-43-17=55	" " "	B15

2.5 mi. E. and 3.2 mi. N. Stauffer, Ventura Co.,
Calif., 5300ft.

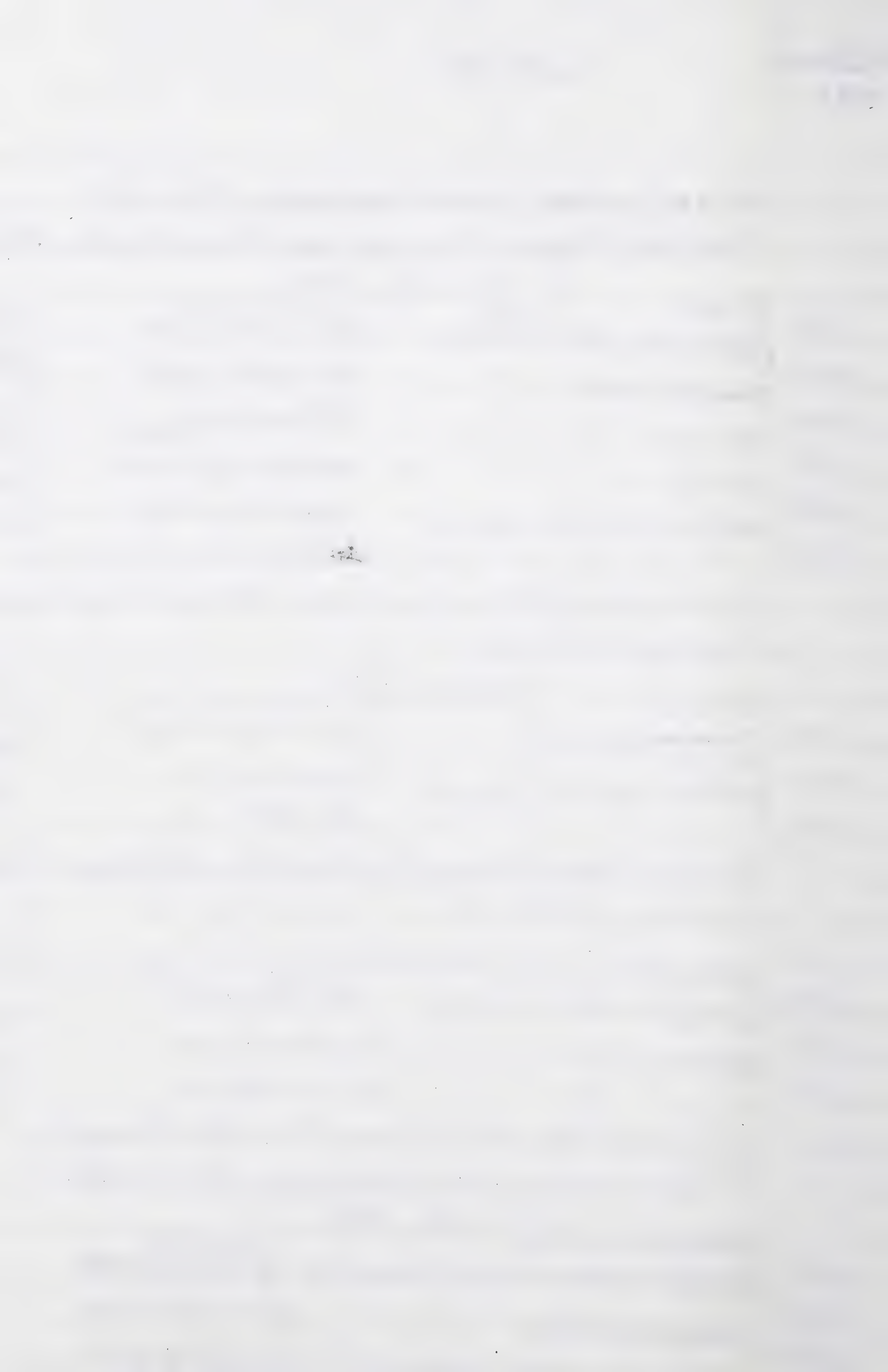
1 Aug 1992

213	♀ uterus enlarged, no scars Dipodomys agilis perplexis	+ tissue, part. skel., chrom tail bobbed	250-135-43-16=42	B20
214	♂ T=11x6 " " "	" " "	312-180-45-19=72	B15
215	♂ T=8x5 " " "	" " "	305-176-45-16=60	A11

1.3 mi. N. and 0.2 mi. E. Chilcote,
Plumas Co. Calif., 5200 ft.

4 Oct 1992

216	♀ Ovaries not dev, no scars Dipodomys panamintinus leucogenys	+ tissue, part skel.	280-156-43-15=58	
217	♂ T=4x3 " " "	" " "	300-172-46-14=58	
218	♀ Ovaries not dev. no scars " " "	" " "	291-167-45-15=60	



Villablanc
1992

Catalog

1.3 mi. N. and 0.2 mi. E. Chilcoat,
Plumas Co. Calif, 5200 ft.
4 Oct 1992

219	♂ T=7x4 Dipodomys panamintinus leucogenys	+ tissue, part skel. 306-175-45-16=58
220	♂ T=8x4 " " "	" " 298-170-47-16=67
221	♂ T=not dev? " " "	" " 300-175-45-16=59
222	♂ T=7x3 " " "	" " 303-168-46-17=76
223	♂ " " "	+ skel, no skin 292-170-45-15=57
224	♀ Microdipodops megacephalus californicus	160-90-25-11=13

8.7 mi. E. and 0.2 mi N. Phelan,
San Bernardino Co. Calif 3580 ft

22 Oct 1992

225	♀ Ovaries not dev Onychomys torridus pulcher	+ part. skel 145-47-20-16=20	
226	♂ T=5x3 Dipodomys panamintinus makarensis	" 292-172-43-15=62	B9
227	♀ Ovaries not dev, no scars " " "	" " 295-165-43-15=64	B3
228	♀ not dev. no scars " " "	" " 304-175-45-15=58	B14
229	♀ not dev. no scars " " "	" " 302-175-43-14=63	B15
230	♀ not dev. no scars " " "	" " 300-170-46-15=66	B12
231	♀ not dev. scars=2 Rt, 2 Lt. " " "	" tail bobbed 290-160-44-15=61	B16
232	♂ T=9x4 " " "	tail bobbed 307-170-46-15=77	B9
233	♂ T=3x2 " " "	" " 292-170-43-15=62	B17
234	♂ T=10x3 " " "	" " 285-165-44-15=67	A13
235	♂ T=4x2 " " "	" " 309-180-44-15=65	A10
236	♀ Not dev. no scars " " "	" " 308-180-44-15=61	-
237	♀ Not dev. no scars " " "	" " 292-162-44-15=63	A20
238	♀ Not dev. no scars " " "	" " 315-188-45-15=63	A3
239	♂ T=6x3 " " "	" " 300-172-45-15=68	A2

Villablancas

1992

Catalog

8.7 mi. E. and 0.2 mi N. Phelan,
San Bernardino Co. Calif., 3580 ft

22 Oct 1992

240	♀ Not dev, no scars <i>Dipodomys panamintinus mohaveensis</i>	297-174-42-14=60	A7
241	♀ Not dev. scars=3Lt, 0Rt " " "	tail bobbed 230-111-45-15=70	A4
242	♀ Not dev. no scars " " "	316-186-44-15=65	A4
243	♀ " " " " " "	bobbed 285-160-44-15=65	A8
244	♂ T=3x2 " " "	290-170-44-15=50	A12
245	♀ Ovaries not dev. scars=2Lt, 1Rt. " " "	tail bobbed 270-140-45-14=56	A1
246	♀ Not dev, scars=3Rt, 1Lt. " " "	tail bobbed 255-134-44-16=52	B6

1.6 mi. S. and 1.2 mi. E. Vista Larga,
Los Angeles, Co. Calif., 5500 ft

22 Oct 1992

247	♀ Not dev. scars=3Rt, 1Lt. teats <i>Dipodomys agilis</i>	tail bobbed 255-127-44-18=60	31
248	♀ Ovaries dev. 1 Rt embryo teats " " "	317-192-46-18=53	4

3.2 mi. N. & 0.5 mi W Beaumont,
Riverside Co, Calif 2880 ft

26 Oct 1992

249	♀ Not dev. no scars <i>Dipodomys agilis</i>	tail bobbed 282-160-40-18=52	
250	♂ T=3x2 <i>Dipodomys agilis</i>	298-180-43-18=53	
251	♀ Not dev. no scars <i>Dipodomys agilis</i>	tail bobbed 270-150-42-17=52	
252	♂ T=4x3 <i>Dipodomys agilis</i>	304-185-43-17=53	

1.5 mi. N & 0.5 mi W. Banning,
Riverside Co., Calif. 2800 ft

27 Oct 1992

253	♂ T=7x3 <i>Dipodomys agilis</i>	tail bobbed 243-145-43-18=54	38
254	♀ Not dev. scars=2Lt, 1Rt. <i>Dipodomys agilis</i>	260-145-42-20=54	8

Villalobos
1992

Catalog

1 mi. N. Calezon, Riverside Co.,
Calif., 2120 ft
27 Oct 1992

- | | | | | |
|-----|------------------------------|---------------------------|-----------------------------------|----|
| 255 | ♀ Not dev. Scars = 2LT, 1RT. | <i>Dipodomys simulans</i> | 290-170-42-17 = 54 | 3 |
| 256 | ♂ T=12x7 | <i>Dipodomys simulans</i> | tail banded
260-141-41-18 = 62 | 36 |
| 257 | ♀ Not dev. Scars = 3LT, 1RT | <i>Dipodomys agilis</i> | 208-170-40-17 = 51 | 14 |

0.9 mi. E. and 2.0 mi. N. Eden
Hot springs, Riverside Co. Calif
2280 ft

27 Oct 1992

- | | | | | |
|-----|---------------------|---------------------------|--------------------|--|
| 258 | ♀ Not Dev. No Scars | <i>Dipodomys simulans</i> | 288-171-41-18 = 44 | |
| 259 | ♀ Not Dev. No Scars | <i>Dipodomys agilis</i> | 280-162-43-18 = 43 | |

0.8 mi. E. Devore, San Bernardino
Co. Calif. 2040 ft.

28 Oct 1992

- | | | | | |
|-----|----------------------|-------------------------------------|-----------------------------------|--|
| 260 | ♂ T=11x7 | <i>Dipodomys simulans/perplexus</i> | 297-180-42-17 = 62 | |
| 261 | ♂ T=7x25 | <i>Dipodomys</i> | 302-182-43-18 = 60 | |
| 262 | ♀ Not dev. 2RT, 1LT. | <i>Dipodomys</i> | tail banded
255-140-41-18 = 55 | |

San Jacinto Wildlife Area, River-
side Co. Calif. (Road Kill Dr. M. Price)

28 Oct 1992

- | | | | | |
|-----|--------------------|----------------------------|--------------------------------|-----------------------|
| 263 | imm (sex=?) ♂-bac. | <i>Dipodomys stephensi</i> | salvage coll. 9 April 92 DOR. | |
| 264 | imm (sex=?) ♂-bac | " | 235-130-42-13 = \ | |
| 265 | ♂ T=9x7 | " | Salvage coll. 2 July 94 D.O.R. | |
| | " | " | Salvage coll. 8 Aug 1991 DOR | |
| | | | 302-170-40-15 = 68 | near grid
K. Eller |

4.7 mi. S., & 1 mi. E. Terra Cotta, Riverside
Co. Calif. 2760 ft = 3.2 miles from
Carrizo Station on Main Devore Road,

Villablanca
1992

Catalog

Cleveland National forest.

29 Oct 1992

- 266 ♂ T=12x5
Dipodomys agilis 310-185-42-17=52
- 267 ♂ T=9x5
Dipodomys agilis 298-180-41-17=50
- 268 ♀ Not dev. Scars=3 Rt, 2 Lt.
Dipodomys agilis 280-160-41-17=50

12.5 mi. S. & 0.5 mi. E. Tracy, San
Joaquin Co. Calif. 1200 ft.

30 Oct 1992

- 269 ♀ Ovaries dev. no scars + tissue + part. skel + chrom
Dipodomys heermanni tularensis 311-190-41-16=55
- 270 ♂ T=12x6 " " " 308-180-42-15=63
- 271 ♀ Not dev. No Scars. Fat. " " " 297-176-41-17=62
- 272 ♀ No Scars. Ovaries dev. " " " 287-170-42-15=61

1.6 mi. N. & 0.5 mi. W. Rumsay, Yolo
Co. Calif. 800 ft.

7 Nov 1992

- 273 ♀ Ovaries not dev. Scars=1 Rt, 1 Lt. + part. skel, tissue + chrom AZ
Dipodomys californicus californicus tail banded 270-150-44-15=58
- 274 ♂ T=7x4 " " " 331-205-45-19=72 A15
- 275 ♀ Not dev. No Scars " " " 309-185-42-16=59 B2

0.8 mi. E. Dales, Tehama Co., Calif.
700 ft

11 Nov 1992

- 276 ♂ T=6x4 + part. skel, tissue + chrom AZ
Dipodomys californicus saxatilis 295-180-42-17=56
- 277 ♂ T=6x3 " " " 290-175-45-15=48 C1

2.1 mi. N. and 0.4 mi. W. Paynes Creek,
Tehama Co., Calif. 1800 ft.

11 Nov 1992

- 278 ♀
Dipodomys californicus saxatilis 267-257-40-13=43

Villablanca
1992

Catalog

1.3 mi N & 6.5 mi W Benton

Inyo Co, Calif. 5320 ft

12 Nov 1992

279 ♀ Scarce None Skull + Skel only L&K
Dipodomys panamintinus leucogenys 290-170-44-13=58

4.6 mi N & 1 mi E Benton

Inyo Co, Calif. 5150 ft

13 Nov 1992

280	♂ T=4x2			Skull + Skel only, r L & K tail bobbed 300-165-44-13=58
	Dipodomys panamintinus leucogenys			" - "
281	♂ T=4x2	"	"	295-168-45-13=57
	"	"	"	" "
282	♂ T=4x2	"	"	309-174-45-14=64
	"	"	"	" "
283	♀ Scarce 1 RT	"	"	282-158-44-14=59
	"	"	"	

Villablanca
1993

Catalog

Dunes, E. bank Salinas River, 1.2 mi N E
2.1 mi. E., Greenfield, Monterey Co.
Calif. 280 ft

16 Apr 1993

284	♀ Embryos 2 Lt, 2 Rt, 1 mm each.	+ part skull + tissues
	<i>Dipodomys heermanni goldmani</i>	295-170-42-15=65
285	♂ T=14x8	" "
	" " "	299-172-43-15=65
286	♂ T=12x7	" "
	" " "	308-180-45-17=67
287	♀ Embryos, 2 Rt, 1 Lt, 2 mm each	" "
	" " "	305-175-43-16=60
288	♂ T=12x6	340- "
	" " "	340-175-43-15=57
289	♂ T=12x7	" "
	" " "	294-170-43-15=64
290	♂ T=12x7	" "
	" " "	297-174-42-15=56
291	♂ T=12x8	" "
	" " "	314-182-45-15=71
292	♀ Uterus dev. scars 1 Lt, 1 Rt.	" "
	" " "	Tail bobbed 270-130-46-15=66

2.3 mi. E. & 4.9 mi S. Shandon,
San Luis Obispo Co. Calif 370 ft

17 Apr 1993

293	♂ T=13x6	+ part skull + tissues
	<i>Dipodomys heermanni boltonensis</i>	300-168-43-16=69
294	♀ 4 Embryos, 2 Lt, 2 Rt, 2 mm each	" "
	" " "	302-175-43-15=59
295	♀ 4 Embryos, 2 Lt, 2 Rt, 4 mm each	" "
	" " "	290-167-42-15=62
296	♂ T=11x7	" "
	" " "	292-162-45-15=68
297	♀ 3 Embryos, 2 Rt, 1 Lt, 5 mm each	" "
	" " "	304-170-45-17=63

Painted Rock Ranch, Carrizo Plains
San Luis Obispo Co. Calif

22 Apr 1993

298	♂ T=10x5	Coll. E. Heikkala, 17 Apr 92 only part. skull Lt & K
	<i>Dipodomys ingens</i>	294-158-43-15=82
299	♀ Scars 2 Rt, 1 Lt	" , 3 May 92 + skull + skull Lt & K
	" "	328-170-48-15=138

Villabanca
1993

Catalog

Goodwin Ranch, Carrizo Plains,
San Luis Obispo Co.

22 Apr 1993

♂ T=10x7

coll. E. Hekkala, 17 Mar. 92.

300

Dipodomys ingens #1679

345-180-47-18=147



F. Villablanca
1988-93

Journal

- 1988 Calif: San Luis Obispo Co.
Calif: Kern, Inyo Cos.
Calif: San Bernadino, Inyo Cos.
- 1989 Chile: Santiago to Puerto Montt
- 1990 Calif: Los Angeles Co.
Calif: San Joaquin Co.
Calif: Plumas Co.
- 1991 Calif: Monterey Co.
Calif: San Luis Obispo Co.
- 1992 Calif: San Bernadino Co.
Calif: Fresno, San Bernadino, Riverside Cos.
Calif: Yolo Co.
Calif: Tehama Co.

Lablance
1988

Journal

26 Aug

En route from Berkeley to Carrizo
Plains, ShO Co., to meet Berny
Payton. Left Berkeley about 4:00
and drove down I-5. Central Valley
was over 100°F. From Hwy 580, to
Hwy 58 (to Bakersfield) only saw one
kestrel, 3 mourning doves, and next
to a green, cultivated field, one
black shouldered kite.

Drove Hwy 58 west over summit of
Tumbler Range. The valley is a grass
land while the last 1000 ft of
the summit of Oak-Juniper woodland.
At base of summit (on W side) turn
left onto 7 mi Rd and then left
again onto unpaved Elkhorn
Plains Rd. This Rd crosses the
Panoramic Hills in a SE direction
+ leads to the Elkhorn Hills. Stay
on main (graded) road. At about
6.6 miles the rd goes left up into
the foothills. Once up in the
foothills take a right at the
next fork (head across the
face of the foothills + not further
into them). At 20 miles the
camp is .5 mile N road.

Ballance
1988

Journal

Along the Elkhorn Plains Rd ^{Mile 12} we saw 2 San Joaquin Kit Fox. They are about the size of a large Jack rabbit. These foxes we each in the road, once the lights were on then, they would squat back ^{with ears up} then run forward in a gallop. Each one ran at about 20 mph along side the road. ^{Because of their small size they can make small (tight) turns.}

At mile 12 we saw a Fresno Kangaroo Rat (D. nitroides) sitting by the side of the Rd under an Ephedra bush. About mile 13 + again at about 16, saw a Giant Kangaroo Rat (D. ingens). One just sat in the light, the other hopped for cover.

Found Berny @ 0200. Sussey Payton, Natalie + I ~~so~~ slept but were awakened repeatedly by D. ingens (camp rat) that would scratch at or hit a plastic drum with oatmeal in it.

27 Aug

Elkhorn Plains

Berny + I got up @ 0500 to check his traps. A D. ingens scurried off from alongside my van as I got out. We checked a 10 x 10

Ballance
1988

Journal

station grid (10 meter intervals) that had a random 30 traps set. Checked a 6x8 grid. Also checked a 3x10 grid that straddled a ravine. The 10x10 + 6x8 grids were in the flat grassland w/ scattered ephedra. The random 30 traps were to compare proportion of flat land catch to 30 traps set in the ravine.

D. ingens were captured in the flatland and along the ravine. These are stout, strong animals. Upon release, they would head for a bush, stop just next to it for a moment + then hop to a burrow opening, or they would nearly hop off to a burrow. A summary of the mornings and afternoons observations are presented in species accounts.

D. nitroideus are about $\frac{1}{3}$ the size of Giant K-rats. They were most abundant near or in the ravine. These animals, upon release will rapidly hop off into the center of a bush and

Ballance
1988

Journal

disappear. Many of the shrubs have small runways that radiate from the litter or grasses at their base.

The vegetation was as follows. The flats were dominated by Ephedra + low grasses. All of the grass cover appeared to have been mowed (only leaves + flower stalks remained), not one seed head could be found on a grass plant. All of the grass had been clipped at a uniform height. This is due to the seed harvesting by D. ingens.
Re The soil was a loosely compacted clay of fine texture. It would hold together firmly but once crushed was a fine powder. Ravines were dominated by Ephedra, Hymenoclea, and a Haploappus as well as 2+ composites. Shallow ravines had gradually sloped banks + sandy to pebbly soil. Deeper ravines (>4 ft) had steep sides + rockier, warmer soil. Some scouring must occur along the bottoms of steep ravines

Calhoun
1988

Journal

The surrounding hills are dominated by Ephedra, Eriogonum fasciculatum and grasses. Some ridges or exposed areas are dominated by Yucca whipplei.

Today was very warm, about 75°F at dawn and a high of 105°F (95°F in the shade). The wind blew in the afternoon. Since it is a full moon, the moon is up from dusk to dawn.

During the day the San Joaquin Antelope Squirrels are active, they are very fast, robust + coarsely haired squirrels. They frequently shake or whip forward the white cottoned tail they hold above their backs. These animals also sit up on their haunches. The body temperature of these animals must be very high, or else they would expend too much water in evaporative cooling. They are active all day, regardless of temp. They even seem to avoid the cooler morning hours.

Blunt nosed leopard lizards

Journal

were present in a ravine ~ .6 mi E of road. These animals have good cryptic coloration especially when in coarse sand or in shade of a shrub. They must also have a high optimum body temperature since they will lounge in mid day. They are hard to spot until they flush, when they usually run for shrubs, or slopes, or burrows in slopes. When alert, their forelimbs are held vertically alongside the body while only the lower hind leg is vertical and the upper hind leg is horizontal to the body .

One solitary swallowtail butterfly (Papilio?) was seen. Either due to good light or actual pigment, the yellow appeared to be very rich and vivid. The only possible food or moisture were some blooming compositae in the ravine.

Swainson's Hawk flew by, foraging along and within the deeper ravines. Bird was flying fast, seen in afternoon.

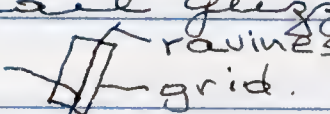
ablanes
1988

Journal

28 Aug

E. Horn Plains, Shasta Co, Calif.

Weather today was hot (75°F morning and $\sim 105^{\circ}\text{F}$ midday). Wind blew from about 1000 on. Moon was 1 day past full, sky was slightly cloudy, though thin, high, patchy clouds.

Got up at 0445 to check traps with Barney. We had set a 4×13 grid ($\sim 10\text{m}$ intervals) along a ravine with very shallow sides. Cover was no thicker in ravine than on the flats. The area is $\sim \frac{3}{4}$ miles N of camp (thus about $1\frac{1}{4}$ mi from road + $\sim \frac{1}{2}$ mile from a quail guzzler up in a canyon.  grid. The catch was very poor and consisted primarily of D. ingens on flats, D. nitro-
toides along ravine. Also trapped one Perognathus (inornatus or longicaudus?).

Also checked a grid of 2×10 stations at $\sim 10\text{m}$ intervals that Natalie and I had set. This grid is about $\frac{1}{2}$ mile ^{NE} from the 4×13 grid. It was in a steep ravine and along the

Dallana
1988

Journal

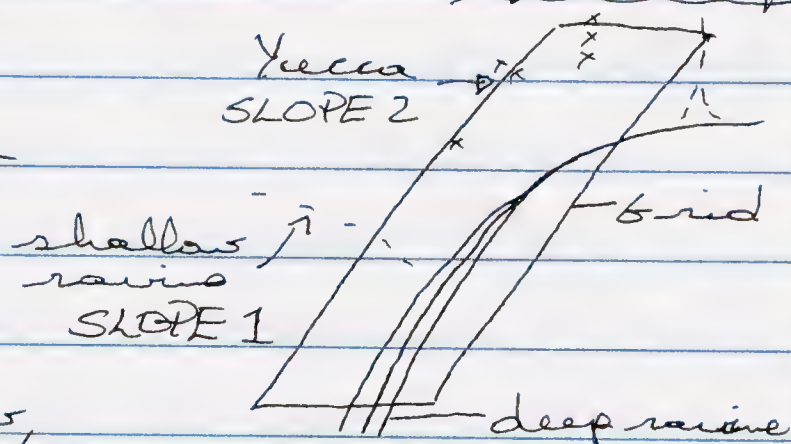
SE facing slope of a hillside at the top (N) side of a large & flat grassland area. This area is of interest because several Dipodomys occur here.

Slope 1 was steep, ~ a 50° incline, with an E exposure,

Slope 2 was shallower,

about 30° with a S. exposure. The deep ravine had about a 4 ft width at the top with a 4 foot depth, its sides were 50° - 60° incline.

The soil in this ravine was loose and soft, the banks were loose and soft, vegetation was thick in places (~40% cover). In this area D. ingens were found in open areas on the slopes, in association with their mounds. D. nitroscius were in the shallower ravines or in the deep ravine. A third species was a narrow faced K-rat of good size with feet that were more stout than those of D. ingens; this is probably D. agilis perplexus (none collected.) In addition



Journal

there appeared to be a broad faced Krat, probably D. heermanni swarthi, though Bernay would not allow me to empty cheek pouches, and none were collected. These latter 2 species would always head for vegetation (even Yucca) once released. Finally, we caught one white-footed mouse (Peromyscus maniculatus) from which I collected ear tissue for documentation purposes. The ecological, behavioral and systematic relationships of these dipodomys would be interesting to investigate.

Blakely
1988

Journal

16 Sept

West Slope Walker Pass, 24600 ft.

The purpose of this trip is to collect Dipodomys panamintinus mohavensis from the same locality collected by Carr and Grinnell in 1911. Genetic data is our goal. Left Berkeley @ 8:30, route: I-5 to 58 through Oaklandsfield, to 178 through Orms on onward towards Walker Pass. Grinnell & Carr described Jack's Station as a site where Canal Creek crosses the road. Grinnell's map indicates a trap site about 1/4 mile South of the creek. We easily found where Canal Creek crosses the road (using USGS topographical maps confirmed 4600 ft). Today there are about 12 homes scattered in this flat area where we had hoped to trap. After talking with a resident it became apparent there are no Dipodomys on this side (S) of the road. Domestic dogs and cats keep pops to a minimum. The only small mammal present is Spermophilus

1988

Journal

hechei. Since our hope is to capture descendants of the 1911 population, we needed to trap as close to this site as possible. Carr indicated that the plant community was Great Basin Sage brush + Joshua Trees. Since the undeveloped area S. of Hwy 178 @ this site is Pinyon pine and Juniper, the closest appropriate habitat was just across the road (N) of the 1911 locality. With the assistance of Sranta Pääbo and Tom Krockner (Both from UCB Biochem) we set 4 lines of 40 traps each. Traps are set in more or less straight lines with one trap every 10-15 meters. Each ^{line} trap has a letter designation and each station on a line has a number designation. A detailed description of the site and trap line location will be elaborated tomorrow. The geographic data is of significance since we are concerned the population

Illablonce
1988

Journal

genetics at a micro scale. We are interested in the survivorship of mitochondrial DNA lineages as well as the frequency of the different types (clones) of mtDNA. Traps are being checked at 2200, and again at 0600. Location of individuals captured will be in the catalog.

17 Sept West Slope Walker Pass, Kern Co, 4600 ft

We checked all 4 trap lines last night and caught 25 D.p. moharensis. Line D has 38 traps, caught 4 rats by 2252 hrs. Line B had 40 traps + caught 7 rats by 2319 hrs. Line A had 39 traps + caught 9 rats by 2340 hrs. Line C had 39 traps + caught 5 rats by 0007 hrs. These traps that caught rats were removed and not replaced, so that all ^{trap} sites had an equal probability of catching one rat. We chose this strategy since the snap traps used in 1917 were not replaced once they trapped a rat.

The traps were checked again at dawn. 30 traps on line A caught

4 rats, 33 traps on line B caught 4 rats. 34 traps on line C caught 5 rats. And, 31 traps on line D caught 8 rats. Thus, each line of ~40 traps caught 10-13 rats each. The following animals were caught and released this morning

Species	Station	notes
<i>Peromyscus maniculatus</i>	A26	light pelage
"	" A28	" "
<i>P. truei</i>	A35	87-broken-22-23=33 ♂ TD
<i>P. maniculatus</i>	A39	—
<i>Perognathus parvus</i>	B5	pale, silky, light dorsal tail 49-62-18-4=6 stripes
<i>Peromyscus manic.</i>	B35	—
"	" C12	color sandy 71-67=20 ♂ TD
"	" C28	thin dorsal stripe color darker 65-63=17 ♂ TND (olive)
"	" C33	light, thin stripe 60-56=14
"	" C39	light, thin stripe 71-68=16
"	" D2	Thick stripes, dark
" <i>truei</i>	D9	—
<i>Perog. parvus</i>	D25	—
<i>Peromyscus manic.</i>	D28	Tawny, wide stripes 69-62-17-16
"	" D33	pale, thin stripes

The following is a description of the line locations based on triangulation from points A and B, See the enclosed map.

Line A- starts @ $N 272^{\circ}W$ of A and $N 334^{\circ}W$ of B. This line starts of and heads $S 116^{\circ}E$, at A12 it heads $S 121^{\circ}E$, and at A20 it heads $N 88^{\circ}E$. Line A crosses the jeep trail between stations 24 and 25. A39 is 25m S of B40. Line B (@ B40) starts at $N 333^{\circ}W$ of B + $N 272^{\circ}W$ of A + runs $N 280^{\circ}W$. This line crosses the jeep trail at B20-B21 + ends at $N 274^{\circ}W$ of A and $N 232^{\circ}W$ of B. Line C is the closest that we could get to the Carr/Grinnell site. It starts about 40 yds from the road (178) at $N 336^{\circ}W$ of B + $N 274^{\circ}W$ of A and runs $N 82^{\circ}W$. at B7 C13 (about 50 yds from the road, this line follows the contour SE + S. at C20 is $W 268^{\circ}S$ of A + $N 333^{\circ}W$ of B. C20 is 10 yds from jeep trail. The remainder of line C parallels the jeep trail about 20 yds E of it (trail). Line C ends at $N 276^{\circ}W$ of A and $N 332^{\circ}W$ of B. Line D starts at $S 269^{\circ}W$ of A and $N 336^{\circ}W$ of B + heads $N 62^{\circ}E$. Jeep trail crosses between D12 and D13. At D16 is a survey

Hollander

1988

Journal

marker (BLM 1970) $\frac{1}{4}$ S657, T265R37E.

Line Dends at S266°W of A and N332°W of B.

Suitabls (*D. pan*) habitat seems to be plentiful here and for quite some distances. The following is an account of the vegetation around the study site. Miles are from Hwy 178 and are in relation to the study site. 61 miles SW the canyon is grass on steep slopes @ 1000 ft. 57 miles SW, at 2000 ft we entered foothill woodland. At 41 miles SW we begin at least locally/partially suitable habitat (near Kern Canyon Rd), Digger Pine, Douglas Oak, Rabbit brush, and less steep soils. ~~At~~ At 35 miles SW the Valley opens up wide. This Valley is wide from here through Waller Pass. At 28 m SW Junipers occur on the SW facing slope. There is a large open basin from about 2600-2700 ft; this basin contains Onyx. At 12 m SW have flat, grass w/ Joshua trees and Rabbit brush. By 10 m SW have Joshua tree woodland, 3000 ft. 2 m E of site

Hallgren
1988

Journal

there is a good Pinyon pine woodland. Yet even this area has suitable habitat throughout.

By 3 m E (at Walker Pass summit), the canyon reopens, dominants are great basin sage brush and scattered Joshua; There are ~~no~~ pinyon. At 9 m E Larrea tridentata is the dominant though this is an ecotone between Mojave & Great Basin Desert.

30 Sept 8:01.8 m NE of Jackass Springs, Inyo Co California ^{Panamint Mountains}. Left Berkeley at 0700 for the Panamint mountains, via the Walker Pass. After going down Freeman Canyon, the dominant plant is creosote bush. After heading up Hwy 395 for about 10-15 miles we covered about 20-25 miles of Black bush scrub (Cologyne ramosissima). Then at Hwy ~~190~~ 190 headed E through a 10 mile section of Saltbrush (Atriplex) scrub. Then upon turning SE on Hwy 190 we (Kelly Thomas + Svante Pääbo) we crossed a small lava field, & then were back into black

184

llalana
1988

Journal

lush scrub. After we turned NE onto Saline Valley Road Auxiliary, the Joshua tree woodland came back in. Up the slope this changes to piñon pine woodland with scattered stands of other types of vegetation. The study site is a mesa (about 500 x 500 meters) just WSW of the road (Hunter Mtn Rd). This site was also trapped in the past by Dixon (3 mi NE Jackson Spring 1917). Our goal are mitochondrial DNA samples from the present population. We set 2 40 trap traplines ^{A+B} along the northern flat part of this mesa, another 40 traps ^{line C} along the S edge of the mesa and 20 traps ^{line D} along the road + 20 at camp. These lines will be better described tomorrow.

10 Oct ^{1.8} 3 mi NE Jackson Springs, ^{Permanit Mountains} Inyo Co, Calif

Got up at dawn to check the traps. The ²⁰ 20 40 trap around camp (a dead end Rd .5 miles W of mesa) produced no captures at all. The 20 traps along the road produced

Journal

a Peromyscus maniculatus ♀ with developed
teats + no other captures. Line C
(40 traps) produced 2 K-rats, the interval
between stations varied from 5-15
meters. At C24 I found a 6" diameter
stump of a burned pinyon. It was
charred and decayed, only xylem remain-
ing. This (old) evidence of fire was the
only evidence of fire found. One
Chaetodipus longimanus at C38. The
following describes line C which is
"V" shaped. C40 is at N45°E of A and
N312°W of B. C1 is N289°W of C40 by
about 40 meters. C1 + C40 are tops of V.
C21 (the base of the V) is at N60°E of A
and N335°W of B. C20 is 25 m NNW of
C21 + thus at N60°E of A and N339°W of B.
From C20 to C1 this line runs due E.
C1 at N52°E of A + N308°W of B. One
Chaetodipus (70-93-22-7=15) caught
at C12. Line B caught 5 K-rats with
40 traps. This line starts at
B1 N59°E of A and N292°W of B and
runs S26°W until B24 where
it turns up a ravine at N281°W
and ends at B40 where the line
intersects a compass line N52°E of B.

1988

Journal

Line A trapped 1 K-rat. This line more or less parallels line A-B. Line A starts at A1 N30°E of C and N283°W of B and runs S262°W. It veers to the right up the ravine & ends up running S272°W of A40. A40 is at S124°E of D.

After collecting the rats we prepared them. Since the 20 traps at camp & 20 along the road captured no rats, Kelley and I moved them to the canyon NW of the mesa. The signs of activity were about as common as in the mesa so we set a line running EW along the canyon bottom. At both sites (canyon + mesa) activity seemed low. Burrows and pit coaxes could be found but they occurred primarily in the open areas (patches of no plants) rather than mixed in among the plants. Also I noted that the vegetation seemed thick overall for K-rats. There were lots of decadent plants, and abundance of woody litter in some spots, and overall more veg. litter than I would associate with good K-rat

Lablance
1988.

Journal

habitat. The mesa is rimmed with low rocky slopes covered with Pinus monophylla. While the mesa is dominated by Artemisia tridentata. On the mesa A tridentata is successional as can be seen by the occurrence of successively younger pinyons that have managed to begin growing in from the edges. This growth pattern and distribution of pinyons indicates they are still colonizing the mesa. Because of the vegetation density and changing floristic composition of the mesa I don't think it will support K rats for much over 30 yrs unless this place has a good fire.

2 Oct Pansaint Mountains
8^{1.8} miles NE Jackson Spring, Inyo Co
California.

Got up at dawn to check the traps & collect them. Got 1 K rat on line A, one ~~on~~ line B, one on line C and two on line E (in the canyon).

We saw tracks of the wild/feral horse we heard last night.

The sex ratio for all captures

Villalobos
1988

Journal

of K rats combined was $11\sigma:2\text{f}$. I am not certain whether this reflects a real difference in sex ratio or just a marked difference in trappability. The capture success was about what I expected for the amount of singns we saw. Thus if Fs are less trappable I would assume it is because they are not as active this time of year. Yet I don't know why that would be the case; Cryptomys is still fruiting at Walker Pass a few weeks ago. 23 of our 43 captures (of known sex) were F (thus almost 1:1). As a result I am compelled to conclude that this population as a whole is small in number and very strongly male biased. Also of interest is the fact that both females had uterine scars and that no unproductive females were caught.

10 Oct

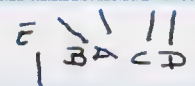
6 mi S Granite Well, Providence Mtns.

San Bernardino Co. Calif 3800ft.

Left Berkeley @ 7:00 with Natalie V., Kelly Thomas + Maria de Silva. Traveled via Bakersfield, Mohave, Baustown & just N. of Essex headed NW towards

Waltham
1988

Journal

Mitchel Caverns, then N on Black Canyon Rd (towards Lima). About 4 miles north of Mitchel Cavern/Black Canyon Rd intersection took dirt Rd NW towards Basaltic cliffs. Followed this Rd in for about $\frac{1}{2}$ mile + set up camp. Walked 200 traps upto 3600 ft. We arrived at \$ 1730 + rapidly placed out 4 lines of 40 traps and one line of 20 traps. The 4 trap lines fanned out from the dirt Rd towards the cliffs, while the single line paralleled the road. Line A ran $N 285^{\circ}W$ + was $N 8^{\circ}E$ of pt A. Line B ran $N 290^{\circ}W$ + was $N 8^{\circ}E$ of pt A. Line C ran $N 318^{\circ}W$ + was $N 10^{\circ}E$ of pt A. Line D ran $N 313^{\circ}W$ + was $N 8^{\circ}E$ of pt A. Line E ran $S 158^{\circ}E$ + was $N 6^{\circ}E$ of pt A. These lines were spatially arranged as follows . From this site there is an alluvial fan that runs up to basaltic cliffs which rise about 1000 ft to a plateau which extends NW to the peaks of the Providence Mtns. Several small + medium washes run

Villalobos

1988

Journal

SE across the fan.

The vegetation was typical Mojave desert but with a remarkable species richness. The dominants were Larrea tridentata, bladder sage, Hymenoclea salsola, the associates were Beltia sp, Encelia sp, Barrel cactus, Opuntia echinocarpa. The soil was a coarse gravel with some sand/dust areas & most of the area had basalt rocks scattered about on the soil surface. I have never seen signs of Dipodomys as thick as here. Almost all of the ground had either burrows, surface caches, sand bathing areas, or tail drags. Finished setting the traps by moon light, it was $\frac{3}{4}$ full.

21 Oct

6 mi S Granite Wells, Providence Mtns, San Bernardino Co. Calif.
3800 ft

Sun rose at 6:30. For the last hour we have been listening to 3 or 4 packs of coyotes howling back and forth across

Chablanco
1988

Journal

this far. There were quite a few of them. We checked the traps hoping to capture 20-25 Dipodomys panamintinus caudatus for comparisons of their mitochondrial DNA to that from specimens captured here in 1937 by Arvey, Taler, Johnson and Marshall. To our surprise there were 21 D.p.c. caught and 70 Dipodomys merriami. The location of captures for D.p.c. are in the catalog. In addition: line A captured 16 D. merriami, line B captured 1 Neotoma lepida, 1 Peromyscus (74-95-90-70=18g) and 15 D. merriami, line C captured 1 N. cinerea, 1 Peromyscus, and one Ammospermophilus and 16 D. merriami; line D captured 1 Neotoma, and 14 D. merriami, line E captured 1 peromyscus and 1 Ammospermophilus. Measurements for 4 D. merriami are as follows: 94-140-36-13=32g; 96-143-36-13=37g; 92-147-35-13=39g; 95-156-35-12=40g. All had 4 toes and a tail crest that extended the distal 1/2 of the tail. Station C6

1988

Journal

was at a survey marker reading
T11N R15E dated 1922 US Survey.

$\frac{531}{54153}$

T10N R15E.

After picking up the traps we put
up 10 D.P.C. and carried the other
11 alive to our next trapping
site. We packed up and drove
to the Panamint Mountains.

Arriving well after dark, we made
camp, ate and slept.

22 Oct 3 mi. NE Jackson Springs, Panamint
Mountains, Inyo Co. Calif 6800 ft.
Since a few weeks ago we only
got 13 specimens here, we needed
to come back. Spent the day putting
up the specimens we have brought
from the Providence Mts. In the
afternoon we scouted the area
for the best places to set 5
lines of 40 traps each. This site
is a wide open mesa about $\frac{1}{2}$
mile across, cut on its Eastern $\frac{1}{4}$
by a more or less N-S straight
stretch on Hunter Mountain
Road. Plant cover is almost 100%
Atriplex tridentata. Overall,

Villablanca

1988

Journal

the cover is too thick for K-rats, but enough open areas with little vegetation litter occur that burrow + surface caches can occasionally be found. This area could use a good fire as is indicated by all the decadent shrubs + extensive litter. We set 4 lines west of the road (A-D) and 2 one-half lines east of road (E+F) for a sum of 200 traps. Order of lines is $\begin{matrix} \text{A} \\ \text{B} \\ \text{C} \\ \text{D} \end{matrix} \begin{matrix} \text{E} \\ \text{F} \end{matrix}$. A1 is N293°W of A + S228°W of B. A runs @ W242°S with ~11m intervals between traps. Line B is 40m S. of Line A, and runs S243°W at ~15m intervals. Line C is 40m S. of Line B, and runs S245°W at ~11m intervals. Line D is 40m S of Line C + runs S242°W to D35 + then turns S165°E. Lines A-D start about 20-25m West of the road. Line E is 40m east of A1 + runs S176°E. Line F is 40m east and 15m south of A1 and runs N356°W.

23 Oct

Got up and pulled the traps.

Line A caught 1 K-rat + 2 peromyscus

Hallam
1988

Journal

Line B caught 2 k-rats and 1 Perognathus. Line C caught 2 k-rats. Line D caught 4 k-rats and 2 Peromyscus. Line E caught 2 k-rats, 2 Peromyscus + 1 Perognathus. Line F caught 3 k-rats + one each of Peromyscus + Perognathus. The k-rats are very large and dark compared to the caudatus subspecies from Providence Mtns. The weather has become warm at day and rather cool at night. We put up specimens and drove off for Berkeley.

Farallones
1989

Journal

6 Jan

Las Condes, Santiago, Chile

En route, plane. E. of San Diego, California, the coastal terraces rise with an eastward ascent & has a tall and steep eastern slope at the W. edge of the saltwater sea. This sea is small and in a flat basin in the rain-shadow of the coastal terraces. E. ridge of terrace has snow + pines.

The gulf of California is a shallow body in a flat basin. East of the gulf is a desert with more or less no topographic relief.

8 Jan

Las Condes to Farallones,
Santiago, Chile.

Las Condes is the N edge of the city of Santiago & is at the foothills. Farallones is a ski area in the mountains to the north, roughly 1 hr by car. This region is drained by the Rio Mapocho. Cottonwoods dominate along the river. A mattharal scrub with several species of

1989

Villablanca Journal

shrubs dominates in the valley of Santiago. I would call this an Acacia Thorn scrub. As you rise slightly the chaparral is dominated by 3 large shrub species; in addition there is a cactus, a silversword (Yucca) + an Eriogonum type plant. No herbs are apparent (this is after the solstice). Some very aromatic shrubs (^{allelopathic} like sage?) occur. Road cuts are granite. At mid elevations, the shrubs fall out of the community. The dominants are low, prostrate, snow tolerant plants.

13 Jan Santiago to Puerto Montt, Chile. Cordillera foothills near Santiago are both rolling and more newly formed rugged ones. Hills extend from Santiago to the coast. The last $\frac{1}{3}^{rd}$ of the distance from Santiago to Puerto Montt, the andes are adjacent to a broad alluvial mesa (not hilly). There are a large number of lakes and

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Journal

river. The latter are easily identified by well developed riparian corridors. The flatness of the landscape is evidenced by the degree of meandering of the rivers. From Pt Mott, we travelled to Puerto Varas passing on the West of the Volcans Osorno and Puntagundo.

Villablanca
1990

Journal

20 July

Santa Monica Mountains Nat'l
Recreation area, Los Angeles Co.
California 1800⁺ feet

Along the Temescal Canyon Trail from $\frac{1}{2}$ mile E of eagle spring to 1.75 mile SE of eagle spring (along trail) saw lots of sign of Dipodomys agilis. Burrows, tail drags, foot prints and sand bathing sites were common. Soil is silty clay. Parent material is sandstone. Vegetation is primarily southern Chaparral, with scattered grassland + riparian (oak) canyons.

23 Aug

Corral Hollow, San Joaquin Co,
Calif, 200 ft

Sign of Dipodomys heermanni (Burrows + tail drags + pit washes + bathing areas) seen in Western edge of Connelly Ranch, just East of the Carnegie Off Road Vehicle Recreation Area. Habitat is a sandy creek flood-plain. Sparse grass + heavily

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1990

Journal

grazed Artemisia sp are just about the only vegetation. Soil somewhat silty.

22 Sept 1.3 mi N and 0.2 mi E Chilcoat,

Plumas Co, Calif 5200 ft

Sandy plane of Great Basin scrub with Artemisia tri-
dentata, Pershia sp, Cro-
thamnus nasiosus & scattered Pines at higher elevations.

This area has Dipodomys ordii,
D. panamintinus, Microdipodops,
Chaetodipus & Perognathus.

J.L. Patton collected 20 Dipodomys for me from this locality while on a mammalogy field trip.

Wablanza
1991

Journal

7 April 1.2 mi. S. Chalk Peak, Monterey Co.,
Calif 3250

About 5 miles by road (on Coast Trail)
from Nacimiento - Ferguson Rd. The
Coast Trail is a dirt Road (except
as it skirts along Chalk Peak where
it is paved) that leads to a fork.

This fork is at Plaskett Ridge Rd
(heads ^{S.E.} ~~S.E.~~) and Prewitt Ridge Rd
(heads W.). About 50 yds north of
the fork (before you come to it) is
a dirt drive that heads East.

Following this drive east, and then
taking the SE fork (other fork
in this drive heads N.E.) you
come to a wide (E.W.) southfacing
slope. The hills surrounding this
slope are vegetated with Coulter
pine, *Leaenothus*, manzanita, Madroño
Eryodictyon + chaparral pea, *Quercus*
agrifolia. The soil is a coarse
cobble sandstone. Beyond the
immediate hills (peaks and
along Prewitt + Plaskett creek
ridge roads), the vegetation is
P. ponderosa, *Quercus agrifolia*, *Q. lobata*,
Q. wislizenii + *Q. chrysolepis*, plus

1991

Journal

madroño, manzanita. The slope
is not typical of the area. This
S. slope is a field of *Adenostema*
fasciculata 2-3 ft high with
upto 5 ft tall burned branches.
This is a pure stand of
chamise. There are few
scattered or peripheral *Ceanothus*
(2+ species), *Arctostaphylos*, *Q.*
aquifolia & *P. conteri*, ^{Rhamnus} ~~californica~~
entirely *Eriocaulon* (looks like *linearifolia*).
Aside from the chamise, the only
other unique feature was a
horned lizard, as well as
few *Dipodomys* burrows,
surface pit caches & some pos-
sible sand bathing areas. The
soil in the open is the same
sandstone cobble. Yet under
the chamise, the soil was fine,
not cobbled, and with much
more humus. Under some
plants (like *Rhamnus*) there
was a lot of leaf litter.
The chamise form $\pm 100\%$ cover
Along the top of this *Adenostema*
field, where the ridge was

Villablancas

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Journal

traversed by the diene, I set 80 traps, 1 trap per station at 10 meter intervals^{SEE MAP (A-D)}. The capture for one night was 7 *Peromyscus boylii* and 7 *D. venustus*. I collected 4 *venustus*. See species account for more info. The vertebrates we saw from Prewitt Ridge Rd to the trap site S. of Chalk Peak are: Acorn woodpecker, Flicker, Cal. Quail, Scrub jay, Solitary Vireo, Cedar Waxwing, Plain titmouse (call is Tunit repeated 3 times), 2 very black *Scoloporus occidentalis* on a dark ^{fallen} ponderosa branch, a pair of Red tail hawks, Monarch butterfly, yellow rumped warbler, Band-tailed pigeon, gopher mounds, and a small chipmunk (loud clanging call), Wren tit (at adenostoma field) + a Violet green swallow (in field

Villalobos
1991

Journal

9 April

Callender Substation, $\frac{2}{10}$ mile S of
Hwy 1 and $\frac{3}{10}$ mile E. Railroad tracks,
Nipomo mesa, ^{San Luis Obispo Co.} Calif. 120 ft

Take Hwy 101 S. from San Luis
Obispo, to Arroyo Grande, then
follow Hwy 1 through A.G. and
out towards the dunes. Follow
Hwy 1 (S) until you make a 90
degree left turn (straight is Callender
Black Lake Rd) and then a 90 degree
Right turn. About $\frac{1}{8}$ mile from
Callender Rd will be a utility substation
for electrical power. The area
trapped is a small depression S
+ W of the substation, and the
next depression S. We set out
92 traps at ± 10 meter intervals
We set 52 traps in fairly open
shrub cover and 40 traps in
an area of open sand with
few shrubs. No signs of K-rats
were seen in the shrubby areas
and none were captured there,
though pocket gopher signs
were abundant. In the area
(a small ridge of fairly
bare soil except for herbs

Journal

E.S.E. of the substation) of the sandy plane, there were abundant burrows, tail drags & pit caches. Here we trapped 2 K-rats. Over all then, we capture 2 K-rats, 3 Perognathus californicus and 3 Peromyscus maniculatus. The herb cover is high following 5 yrs of drought and a good heavy rain this month. Vegetation is dominated by Ericameria ericoides. Sub dominants are Lupinus chame-soris, Phlox (fresh), Eriogonum fasciculatum & Penstemon fasciculatum. Herbs & subshrubs are Horkelia cuneata, filare, Phacelia, Castilleja, fiddleneck, popeye flower. Grasses were primarily Red Bromes rubens, Bromus diandrus and secondarily Ehrharta aramarea, Avena Avena barbata & a fescue. All of this area has a pale sand with little organic material except under shrubs. At least w/ Ericameria dominant K-rats are in the open.

1991

Journal

0 April 3 $\frac{1}{10}$ miles W and $\frac{1}{2}$ mile N Tumbler Peak, Elkhorn Plain, San Luis Obispo Co., Calif. 2500 ft.

From Hwy 58 (178 on 1959 USGS topog) drive out 21.7 miles ^S on the Elkhorn road, this is 8.7 miles S. of the power lines that cross the road. The area we trapped began $\frac{4}{10}$ of a mile north of Elkhorn Road. It is a per annual stream channel.

From the road, the channel runs down from a canyon w/ a steep face to the west & a more shallow, rolling face to the east. Going upstream the channel is wide (20-60 feet) with several (2-4) ravines on either side. Further upstream the channel forks. The N. fork runs up into a large canyon w/ a high ridge behind it to the north. The NE fork runs towards a dome shaped hill (2952 ft) to the east. We camped where the topography changes from the gradual alluvial fan

Billalana

1991

Journal

rising from the road, to the canyon, ravine topography. We set 180 traps about $\frac{1}{2}$ way up the channel banks + along the sides of 3 small and one deep ravines. These were the first 3 ravines on the E, and first 1 ravine on the west past camp. The capture was 4 Dipodomys heermanni swarthi and 2 Dipodomys nitrotoides. All were trapped in or at the mouths of ravines. The alluvial fan has scattered Ephedra shrubs. The ravines are dominated by Hymenoclea salsola and Ephedra. All fairly flat areas are covered with a low carpet of green vegetation; filare + chest grass dominate. It is interesting to note that the last 5 years we have been in a drought, over the last 2 yrs K-rat populations have decreased in this area, in March of this year we got

Tillamook

1991

Journal

about $\frac{1}{2}$ of the precipitation we get in an entire normal rain season. Now that the plants are responding there are no (few) K-rats around to exploit the food, I suspect this decrease in seed predation will mean even more plants will sprout next year (given we get some rain). This means that the greater the decline in K-rat pops, the better the habitat quality will be for the few individuals that will be the source for the local pop to come.

1 April Callendar Substation, $\frac{7}{10}$ mile S. Hwy 1 and $\frac{3}{10}$ mile E. Railroad tracks, San Luis Obispo Nipomo Mesa, San Luis Obispo Co. Calif 120 ft

Returned to set another 160 traps in a depression $\frac{3}{10}$ mile SW of the substation. We also re-trapped the open sandy area. The depression is a small hollow that ends at the

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Journal

railroad tracks. This hollow was full of K-rat signs. Total capture was 5 *Dipodomys heermanni* (one of them a juvenile), 3 *Perognathus californicus* and 2 *Peromyscus maniculatus* (one of them a juve).

Villablanca

1992

Journal

March 92

En route from Berkeley to the Providence Mountains, then Cima dome, and then the Panamint Mts. At Lost Hills (in central valley) find ponding water from the first good rain for about 5 yrs. The drought has been dry + long. This year "el niño southern oscillation" brings storms out of the south.

Hwy 58 East. Edison is in the foothills @ base of the Tehachapi mts. The foothills + alluvial fans are a grassland with scattered shrubs, some sandstone outcrops. Just N. of Hwy 58 lies an E-W. valley of low elevation. Further north is the V shaped valley to walber pass. From Lost Hills to foothills saw 14 crows. Amorimia is abundant in foothills. When get to Hwy 223 are in a valley & blue oak woodland. By Hart Flat, are in a mixed evergreen forest with Digger Pines, some chaparral & Rabbit brush

When Hwy 58 crests it is a Blue oak and Pine woodland w/ some chaparral on shallow soil of steeper slopes. These upper elev. flats (~2 mi. W. of 202 Hwy) are Blue oak with Digger pine, Juniper & scrub oak. From Tahachapi to Monolith is grassland with outcrops and some sarranish (4000 ft). Past Monolith get grass land or juniper & scrub on slopes. By Sandy Canyon Road have desert scrub with scattered junipers. About 8-12 mi before Mojave get Joshua trees creosote, juniper and atriplex where begin descent into desert. Few Joshua trees below 3000 ft, then start again in bottom lands. The last 15-20 miles to Barstow is mostly Atriplex with creosote restricted to deeper soil on edge of foothills. East of Barstow by Nelo Rd. have rolling hills and a flood plain with creosote. This is a paved Rd and looks good for trapping. Likened for Daggett. Hwy 40 cuts across

creosote desert and lava fields until get to Newberry Springs which is just into the edge of Saltbrush scrub. Post Newberry Springs Hwy 40 is in the flood plain. Creosote is restricted to the flanks of the mountains to the SE of Newberry springs. Fort Lady Rd goes up into some higher elev. mountains with Pinon or juniper (can't tell). At Hector Rd seem to rise out of flood plain and back into creosote with a triplex. The flood plane is gone, or more narrow. The plane is cut off (ended) by the Mtns N and NE of a crater. Hwy 40 is in the lowland still, but there is no more Atriplex. There is a dry (Bristol) lake S.E. of the crater. The slopes from Hwy 40 to Bristol lake are covered with low stature creosote. E. and N. of Bristol lake are broad bajadas. Going E., the bajada peaks & then I dropped into a broad NS valley. As 40 crosses the flank of Bristol mountains, plant diversity increases with grasses, shrubs and some Atriplex. These areas are

rocky and hilly. For 4 miles past old man Mtns it is still rocky and hilly, yet some *Yucca brevifolia* and shrub genera are coming in. The granite Mtns form a significant rain shadow to the north. Large broad bajadas sit between the Granite and the Providence Mtns, especially on the flanks of the Providence. Working up along the E. side of the Providence. Clipper and Fenner Valleys are broad bajadas. Saw 1 loggerhead Shrike before turning off of Essex Rd and onto Black Canyon Rd. Wild Horse Canyon (to west) looks like a low pass. Woods Mtns cross the Fenner and Hanfair Valleys (though fairly contiguous). Junipers appear on the NE side of Hole-in-the-wall. Granite Wells and Macedonia Canyon are also low passes. Junipers come in at an elevation about $\frac{1}{2}$ way up Table Mtn. By the head of Gold Valley, no more creosote. Now get *Adenostoma*, *Atriplex*, Juniper & other shrubs on the fine, boulder-strewn soil. Gold Valley opens to

Juniper, Atriplex (looks like Great Basin sage, but isn't) Round Valley. Looks like where sections 36, 31, 1 and 6 intersect would be a simple cross to the Lima (W.) side. At 5200 ft get a change to Pinon, both Yucca and an Artemisia; the Atriplex is gone. Red Tailed Hawk ~~on~~ soaring on ridge N of Cedar Canyon after I turned off Black Canyon Rd. Cedar Canyon Rd drops S.E. back into Round Valley, again with Atriplex, Yucca and Juniper.

Villablanca
1992

21 Oct

En route from Berkeley to Phelan.
Hwy 5, 1 mile N of Kammer Ave, Fresno
Co. looked @ burrows right next to
road. Rolling hills w/ scattered shrubs
& dry grasses. Probably Dipodomys
heermanni tularensis judging
by the size. Agave Dulce (K.A. Co.)
is probable D. agilis agilis habi-
tat: coastal scrub with some
juniper & red bit brush. Steep
rocky ridge just to east @ 2000 ft.
Escandido is similar except with
more of a juniper woodland (3000 ft)
By Acton looks like D. a. perplexus
habitat. At Hwy 14 + Santiago Rd
have juniper woodland + some creosote
bush. The intersection of Sierra
Hwy + Pear Blossom Hwy has the
Joshua tree / Juniper woodland
look similar to the base of the
Panamint mountains coming from
Koeber. Hwy 138 @ 30th St is ecotone
Juniper woodland / Mojave desert.
At 138 & Cheesboro Rd have Joshua
tree woodland w/ some harves. From
Little Rock to Hwy 18 is Joshua trees
woodland w/ scattered harves. Three

Villablanc

1992

Phelan

21 Oct

density of Joshua increases from the highway as you go up to the heads of the large bajadas. There is a D. panamintinus mohavensis collection from Llano. This area is creosote brush scrub with scattered Joshua trees & is just below a Joshua tree woodland extending up the bajada. From Hwy 138 @ Hwy 18 all the way to Heespe-
rine is Joshua tree woodland, or Mojave Desert with scattered Joshuas. From around Hwy 18 on, pick up more Junipers, especially as climb in elevation (ie: @ lower edge of Juniper woodlands. Pheland Rd leaving ~~to~~ Hwy 138 the Joshua & Juniper are co-dominant with thick or scattered growth. 8.7 mi. E. and 0.2 mi N Phelan 3580 ft. San Bernardino Co. Set 120 live traps in a 20 x 6 station grid with traps at 12 paces (20 m) intervals. The lines about the 1st dirt Rd that parallels Phelan Rd. Line A1 is S.W. corner & E20 is NE corner of grid. Area is co-dominated by juniper & Joshua trees. Also presents ^{cholla-sheathed needles.} Atriplex, Eriogonum, Rice grass. Area

Villablancas
1992

Largo Vista

21 Oct

looks like some of the Curruva are inactive (spider webs + litter). This same day set 40 traps @ 1.6 mi S and 1.2 mi E. Largo Vista, Los Angeles Co. 5500 ft. Traps were set at $\frac{10P}{1-40} = 100m$ in a loop around signs of activity. Here the vegetation is mostly a mountain chaparral: flannel bush, Q. crusolepus, Artemisia tridentata, Ceanothus, Eriogonum, beaver tail cactus, Rhamnus californica + crocea, Sambucus + Cercocarpus sp.

22 Oct

Largo Vista - caught 2 Dipodomys and 4 Peromyscus truei. Some one had been by and tripped about 1/2 of the traps, as well as smashed 2 (both empty).

Phelan - caught 76 Dipodomys panamintinus, 17 Peromyscus maniculatus & 4 Onychomys torridus (in sherman live traps with millet seed bait)! The dipos all ran to or through bushes upon release. There were lots of burrows in the open (space between shrubs) but no animals used these. All went through or into cover. Many of

Villablancas

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1992

22 Oct

the shrubs had clear run ways through them. One animal (dip) hopped away about 2 feet, quickly widened a hole that at first was only a depression, once it had access to its burrow system (1-2 seconds) it squeezed and was gone. Not a "thin cooling emergency exit", but almost a push through entrance. Another animal hopped to within a foot of the next trap on the line. It stopped there. I approached & picked up the trap; the rat still sitting, & not moving until my back was turned (as I walked on.)

23 Oct

Comped last night at Silverwood lake (end of ^{Hwy} 238). Looks like Dipodomys agilis habitat; Mountain chaparral, with some coniferous and deciduous forest on the mountain rims. Chaparral has lots of Adenostema & Arctostaphylos & looks like D. venustus habitat at Chalk Peak (Monterey Co.). Heading to Hwy 15, horse thief canyon is Adenostema

Villablanca
1992

Beaumont

- 23 Oct and chaparral yucca, some juniper on open ridge tops, and a great basin sage & rabbit brush with *Eriogonum* in the canyon bottom. Similar to *Dipso* habitat in Santa Monica Mtns, and also at Hwy 33 N. of Ojai. Stopped on Hwy 138 about 1.5-2 miles from (S. of) Hwy 15. Lots of burrows in a *Arctostaphylos*, *Adenostoma*, yerba santa community.
- 25 Oct 3.2 mi. N. & 0.5 mi. W. Beaumont (just NW of Little San Geronimo Creek), Riverside Co., Calif at 2880 ft set out 40 traps (head of Bellflower Avenue). Site is hilly area of deep ravines and gullies, set 4 lines of 5 stations (2 traps each) across the face & top of a West facing slope. Soil is a sandy loam, sedimentary probably from granite. The vegetation is thick and old *Adenostoma*, *erigogonum*, *Q. turbinella* and *Q. crysolepis*. This hill side is just above a alluvial fan across the san geronimo pass and is just south of the N-S divide of the pass. I am

Banning

25 Oct curious to know if the San Geronimo River (~5 miles S) ever flowed north into the San Jacinto valley. Also noted is the recent uplift evident by the downcutting and headward erosion in all the creeks + streams.

Set 40 traps 1 mi N. Banning at 2640 ft on hillside that is the northern mouth of the San Geronimo River (head of 8th St). The vegetation is *Eriogonum*, *Atriplex californica*, and *Adenostema* as dominants with *Bromes* + *Avena* grasses. Area is disturbed. Sandy loam of sedimentary (granite parent material) nature. Some iron rich soils scattered about. Banning Bench (topog) is likely a granitic outcrop forming a steep W. bank to the river. The San Andreas Rift Zone lies either in the S. Geronimo River canyon, or crosses it near its mouth. Trap line crosses the hill ≈ 1.40 .

26 Oct Caught 9 Pocket mice & 8 deer mice. Not 1 Dipos. Will move line to mulier over.

Villablanca
1992

Devore, Callegon

26 Oct

At Beaumont caught 5 *Dipodomys agilis*, 3 Pocket mice and one *Neotoma fuscipes*. Also noted brittle brush is present.

At 0.9 mi. E. Devore, San Bernardino Co. Calif, set 25 traps at 2000 ft along edge of Cajon Wash. (1 line, 10m. intervals)
Vegetation is peculiar + includes:

Eriogonum shrubs, Chaparral yucca, *Artemisia* sp. *Haplopappus* sp, yerba santa, *Pluchea sericea*, Chica, *Lotus scoparius*, poison oak, sycamore and *Arena* sp.

Wash is gravelly + sandy granitic source with small rocks.

At same site set 15 traps at 2040 ft in very different vegetation of slope above wash consisting of Brittle brush, yerba santa, *erigonum*, desert weed + Calif. sage. All traps set in 1 line (at each site) with stations at 10m. intervals. (1 line, 10m. intervals)

At Callegon set 40 traps 1.0 mi N Callegon, Riverside Co., 2120 ft.

Trap run under + along a line of power poles from Millard Pass

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1992

Banning, Badlands

26 Oct Road west. Vegetation is *Acacia greggii*, *Stipa* sp., *Croton* & filare. Catclaw is scattered & has a low % cover. Calcegon Peak is steep & rugged suggesting recent unequilibrium uplift.

At Banning reset 40 traps along ridge at top of 8th St. 1.5 mi N. & 0.5 mi. West, Banning, Riverside Co.

2800 ft. Vegetation on this switch back is *Chamae* and black sage. Area most of burned 2-4 yrs ago; stumps remain. 2 lines

Badlands: 0.9 mi. E. & 2.0 miles N.

Eden Hot Springs, Riverside Co., Calif.
2280 ft. Set 40 traps along level ridge to next to road. ^{Jackrabbit Trail.} Fine sandy silt (of lake bottom type I would guess). Vegetation is black sage, calif. sage, little bush (*Enealia farinosa*), ~~russian~~ russian thistle, and mustard.

27 Oct Capture at Calcegon was 6 *Dipodomys simulans*, 14 *Peromyscus maniculatus*, 1 *Chaetodipus* & 1 *Perognathus*. Dipodomys burrows (used by released animals were in open or at end of run

Villablanca
1992

Journal

27 Oct

wasp under shrubs. At Banning (ridge top, not slope) caught 2 *Dipodomys* (*agilis* or *simulans*? - not sure since am hoping to find contact zone between these 2 species and their 2 karyotypic forms), 6 *Perognathus*, 7 *Peromyscus maniculatus* and 1 *P. truei*. At ~~the~~ Badlands site caught 3 *Dipodomys* (*agilis* or *simulans*), 3 *Peromyscus maniculatus*, 3 *P. truei*, 1 *Neotoma fuscipes*, and 7 *Chaetodipus*. The Cajon line in the wash produced 7 *Chaetodipus*, 1 *P. maniculatus* and 4 *N. fuscipes*. The latter had small houses (more like burrows) under small leaved tail cactus. The line on the mesa above the wash caught 4 *Peromyscus maniculatus*, 4 *Perognathus* and 1 *N. fuscipes*. No K-rats. I moved the traps about 1/4 mi. NW to an area just N. of the wash, next to the Road, and just S. of a KOA camp. Site is 0.8 mi E. Devore, San Bern. Co. 2040 ft. Here the vegetation is coastal sage, with Calif sage, deer weed & *Eriogonum*.

28 Oct

Devore trap line caught 3 *Dipodomys*

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1992

Santa Ana Mountains
§
Tracy

28 Oct

agilis, and 4 *Perognathus* plus 2 *P. maniculatus*.

Trapping at the Santa Ana Mountains was done at 4.7 mi S. & 1 mi. E. Terra Cotta, Riverside Co. Calif 27605t; this site is referable to another MVZ site as follows 3.2 mi. from Carrizo Station on Main Divide Rd, Cleveland National forest. 40 traps were set along a dirt Rd on a ridge. Vegetation is Chamise, with deer weed, leather oak, and scattered *Bromus rubens*. Soil has a desert pavement finish, and like the desert, soft fine silty soil is found when the crust is cracked.

29 Oct

At 4.7 mi. S. & 1 mi. E. Terra Cotta captured 9 *Dipodomys agilis* and 3 *Peromyscus truei*

12.5 mi. S. and 1/2 mi E Tracy, San Joaquin Co. Calif. 1200-1500 ft. Set 44 traps along the ridge tops between the Lone Tree and Hospital drainages. The area is an annual grassland. Grasses less than 1 ft tall. Trail systems (run ways) visible around K-rat burrows.

30 Oct

Caught 35 *Dipodomys* in 44 traps.

Villalobos

1992

Rumsey

30 Oct Only collected 4. Did note that of the ~~44~~ 35 there may be 2 color morphs: about $\frac{3}{4}$ dark (ie black hairs on white lateral tail stripe), and about $\frac{1}{4}$ lighter, more typical *tularensis*

6 Nov Trapping for *D. californicus* went to 1.6 mi. N. and 0.5 mi. W. Rumsey, Yolo Co. Calif, 800 ft. This area is a small public (open) parcel between 2 Ranches. Where Cache Creek loops North then South at the border between sections 12 and 7, there is a jeep trail up into the next canyon W. of Benjamin Canyon. Nearly a $\frac{1}{2}$ mile from the Cache Creek at a steep hillside of Thick and about 4 ft tall stand of Chamise, I set 15 traps @ 10 paces intervals (line A), $\frac{3}{10}$ mile up the jeep trail at the crest of the second EW ranging ridge I set 5 traps^{Line B}. Signs of *Dipos* were present, but not abundant. I walked on up to the head of this canyon + set 20 traps on the E facing slope (across the ravine from the trail) between 1000 + 1200 feet. This

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1992

Dales

6 Nov

area was scattered clumps of chamise with grassland in between. Found burrows + pit caches^{Line C}. The soil at all 3 trapping spots is from conglomerate parent material. The soil surface is hard, packed with rounded (alluvial) stones, and loose stones cover the ground in many areas.

7 Nov

Line A (15 traps) produced 2 *D. calif* and 2 *Peromyscus truei*, Line B only 1 *D. cal.* and line C (20 traps) captured only 4 *P. truei*. There are *D. cal.* at line C, but none were trapped. Found 1 trap with a *P. truei* in it and also the white tail tip of a *D. cal.* Both would have had to have been foraging at the entrance or in the trap at the same time.

10 Nov

Trapping for *D. cal.*, set 40 traps alongside Hwy 36; on a dirt road between the Hwy and a ranch fence. 0.8 mi. E. Dales. Tehama Co. Calif. 700 ft. This area is littered with volcanic rocks on the surface, and seems to be mostly lava flows. The soil surface is almost always covered with rocks, from pebbles to boulder.

Villablanca

Paynes Creek

1992

10 Nov

The vegetation is an oak woodland of Blue oak, with some scattered *Ceanothus*. The woodland is open + short grasses grow where there are no rocks. Further up the road I set 20 traps 2.1 mi. N. and 0.4 mi. W. Paynes Creek, Tehama Co. Calif, 1800 ft From Hwy 36 went 1.9 mi. N. on Lanes Valley Rd. The vegetation is a Montane/Sierran Chaparral that is transitional to forest: *Ceanothus* (deciduous with red distinct pinnate venation), 2 *Mangaritas* (a shiny green one, and the other a dull yellowish-green), *Q. chrysolepis*, Twin Berry? (heart shaped leaves + 2 inch legume pods), a *Betulaceae*, Poison oak, and *Pinus jeffreyi*. Soil here is same as at Dales

11 Nov

At Dales caught 2 *Dipodomys*, one in grass + one under *Ceanothus*. At Paynes Creek caught 2 *Dipos*. This was the only species caught.

F. Villablanca
1988-93

Species Accounts

Villalobos
1991

Dipodomys heermanni

patches. Upon release of 1 K-rat, I noticed that it hopped from bare patch to bare patch, right over herb cover until it hopped head first into its burrow.

3 1/10 miles West and 1/2 mile North
Tumbler Peak, Elphorn Plains,
San Luis Obispo Co. Calif 250056

- 1) soil and topography are very different from those found in the ranges of D. h. arenae + D. h. morroensis. Here the parent material is granitic intrusion. Soil is poorly developed in many areas. Salt content + Clay content are high. Also, the K-rats occur primarily along the edges + bottom of steep ravines. These ravines are shared with D. nitroside. D. nit shares the alluvial fans with D. ingens.

Illalanes
1991

Dipodomys heermanni

$\frac{2}{10}$ mile S. Hwy 1 + $\frac{3}{10}$ mile E. Railroad tracks (Callender substation),
Nipomo Mesa, San Luis Obispo Co. Calif 120 ft.

- 1) in this area there are shrubby swayles and sandy plain ridges. Signs of k-rats are seen both in open sandy areas + in the more shrubby areas. One might guess that signs of k-rats would be easier to find + thus observe in the open. Yet the absence of sign in shrubby areas correlated well with a lack of captures in those areas. Thus when signs of k rats occur in the open + shrubby spots they (k-rats) are there, when no signs of rats are found in the shrubs it is not because the signs are harder to see, it is because rats are absent.
- 2) These k rats do not require pure (unvegetated) sand runways for locomotion, so long as the herb or litter cover is interspersed with sand.

Villablancas
1991

Dipodomys Venustus

on fine leaf litter (especially
if the leaves are small and
linear as in chamise), than
to hop on uneven, cobbled
soil

Villablanca
1991

Dipodomys venustus

1.2 miles S. Chalk Peak, Monterey
Co. Calif.

- 1) hillside covered w/ *adenostema fasciculatum* was the only site where we found signs of kangaroo rats. Signs were few burrows, some pits (caches or seed foraging spots) + individual (not group) sand bathing areas.
- 2) animals trapped were all very calm. None out of the 7 ever struggled (in the field + even later in the lab). They are extremely passive.
- 3) One animal was released along the edge of a field of *Chenise*, it ran right under the *Chenise* + then under a *Rhamnus californicus* with leaf litter so deep that you could hear the chronic crunching sound of the K-rats + rapid hops.
- 4) My impression was that the shrub cover may act as a food source, predator cover and its litter as a soil conditioner. It may be simpler to hop

Lablance
1988

Dipodomys panamintinus

habitat amongst the pines
is suitable (open between the
Artemisia tridentata).

6 mi S. Granite Well, Providence
Mtns, San Bernardino Co, Calif.
21 Oct 1988

- 1) Habitat was harrow tridentata +
Yucca schottigera dominated on
a shallow sloping alluvial fan.
Sedges appeared to be more or less
evenly spaced between washes,
coarse gravel with scattered igneous
rocks (more than 50% cover at times)
and base of rocky cliff.
- 2) Ratio of D. merriami to D. panamintinus
was 7:2 as per 180 traps
- 3) Habitat type extends down another
1000 ft towards Essex. K-rats
could occur there, though this
is probably lowest elev of
occurrence.
- 4) Vegetation is mohave desert Larrea scrub.
The plants and associated small mammals
are different from those throughout the
rest of the range of this species. This
population may be atypical for this
sub-species ecological range

Mallares
1988

Dipodomys panamintinus

4) Surprisingly, one individual stopped in an open area to put seeds in its pouches after it was released. It stopped for about 30 seconds & then hopped off. This was at about 0800.

5) These animals have a very small ear (for their size), are pale, and have a ^{ventral} tail stripe that fades to white distally.

1.8 mi NE Jackson Spring, Panamint Mountains, Inyo Co. Calif, 1 Oct 1988

1) This subspecies is much larger and heavier than the D. p. mohavensis subspecies is at Walker Pass.

2) The sex ratio at this site was 11♂ : 2♀

3) The vegetation is thick overall with patches of open more suitable habitat. Joshua trees are replaced by ^{Pinon pine} ~~Yucca~~, thus this site is elevationally and ecologically higher than Walker pass. Though it also shows that pinon pine woodland will not present a dispersal barrier to this species so long as some of the

Villablanca
1988

Dipodomys panamintinus

West Slope Walker Pass, Kern Co.

Calif 4600 ft. ^{17 Sept 1988} These K-rats occurred

in a great basin scrub / Joshua tree woodland. The dominant

plants were Artemisia tridentata, Crotophaga naevia, + Yucca

brevirifolia. Associates were Salix
douglasii, Pinus monophylla + Juniperus
californiana, Eriogonum fascicu-
latum and Interior golden cholla.

- 1) Areas of high density appeared to be correlated with Joshua Trees. These areas were also littered with burrow openings and surface pit caches
- 2) The surface pit caches were very large in some cases, being up to $1\frac{1}{2}$ " wide and $1\frac{1}{2}$ " deep and also upside down U shaped .
- 3) Upon release most of the animals would hop off to a burrow (rather than cover). The pops were in a digitigrade manner with the posture much like that seen in the front piece to Grinnell's 1922 K-rat publication

Dipodomys nitrotoides

26 Aug

Elkhorn Plains, San Luis Obispo Co., California

"this small ($\approx 40\text{gm}$) K-rat appears to be associated with vegetation. It seeks cover at the edge of and within shrubs. Burrow openings tend to be intimately associated with shrubs. All burrows we saw entered were at the base of or in shrubs

2) This small K-rat has short leaps when compared to larger K-rats.

Chalchicomula
1988

Dipodomys ingens

may of been watching us.

5) The area around + between mounds was characterized by annual grasses that appeared to have been mowed at about 3-4 inches high. This appearance was due to the habit of these rats to harvest grass seed heads. 3-4 inch thick piles of drying seed heads could be found covering part of the mounds. Bernie said that these seed heads can totally cover large mounds to a depth of about 6 inches. Storage facilities in the burrows must be huge, or else maybe the rats bury the seed layer upon layer.

6) Upon being released (after ear tagging etc.) the animals would typically run to the edge of a shrub, hesitate for a moment, and then ~~a~~ hop into a burrow opening.

7) This animal is ~140gms. Has large feet with hair that extends up to the toes ~~such~~ such that they are partly obscured ~~the~~ by the distally projecting hairs. The tail is stout, in proportion to the rest of the body.

Lablance
1988

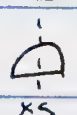
Dipodomys ingens

26 Aug

Elkhorn Plains, San Luis Obispo Co,
Calif.

1) Burrow systems are identifiable by large (~2 to 6 ft diameter) flat mounds of fine soil that is dug out of the burrows & deposited on the surface

2) there are 2 types of burrow openings: The typical Δ shaped ones, and plain circles that open into vertical tunnels which may drop for ~10 inches

3) The mound is covered by fine soil particles underneath which there is a crusty clay soil. In this harder surface can be found a large number of surface pit caches all placed $\pm$ right next to each other. These pit caches were open & empty. The shape is  from above, and  in cross section. The size of the pits (1 inch wide & 1 inch deep) is not proportional to the size of these Krats!

4) These rats (saw 2 dif ones) would sit up on the mound at dawn. The moon was full & setting & the sun rising. It's possible that they

F. Villablanca
1988-93

Topo Maps of Collecting Localities

A vertical strip of a topographic map is visible on the left side of the page. It shows contour lines with elevations such as 1200, 1400, and 1600. There are also some numbers in circles, possibly representing spot elevations or specific locations. The map is oriented vertically.

D. heermanni jolonensis

2.3 mi E + 4.9 mi S Shandon

San Luis Obispo Co.

Shandon Topog Sheet



Shandon

D. cal. saxatilis

2.1 mi N + 0.4 mi W Paynes Creek

Tehama Co

Inskip Hill Topog sheet

590

591

592

593

INSKIP H
CALIFORNI
7.5 MINUTE S

2.1 mi N. and 0.4 mi W

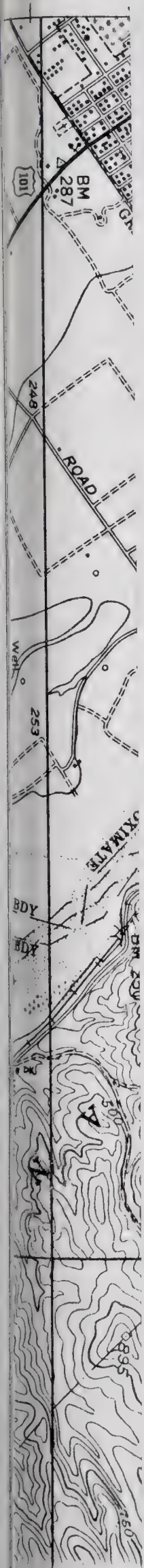
Paynes Creek

Tehama Co.

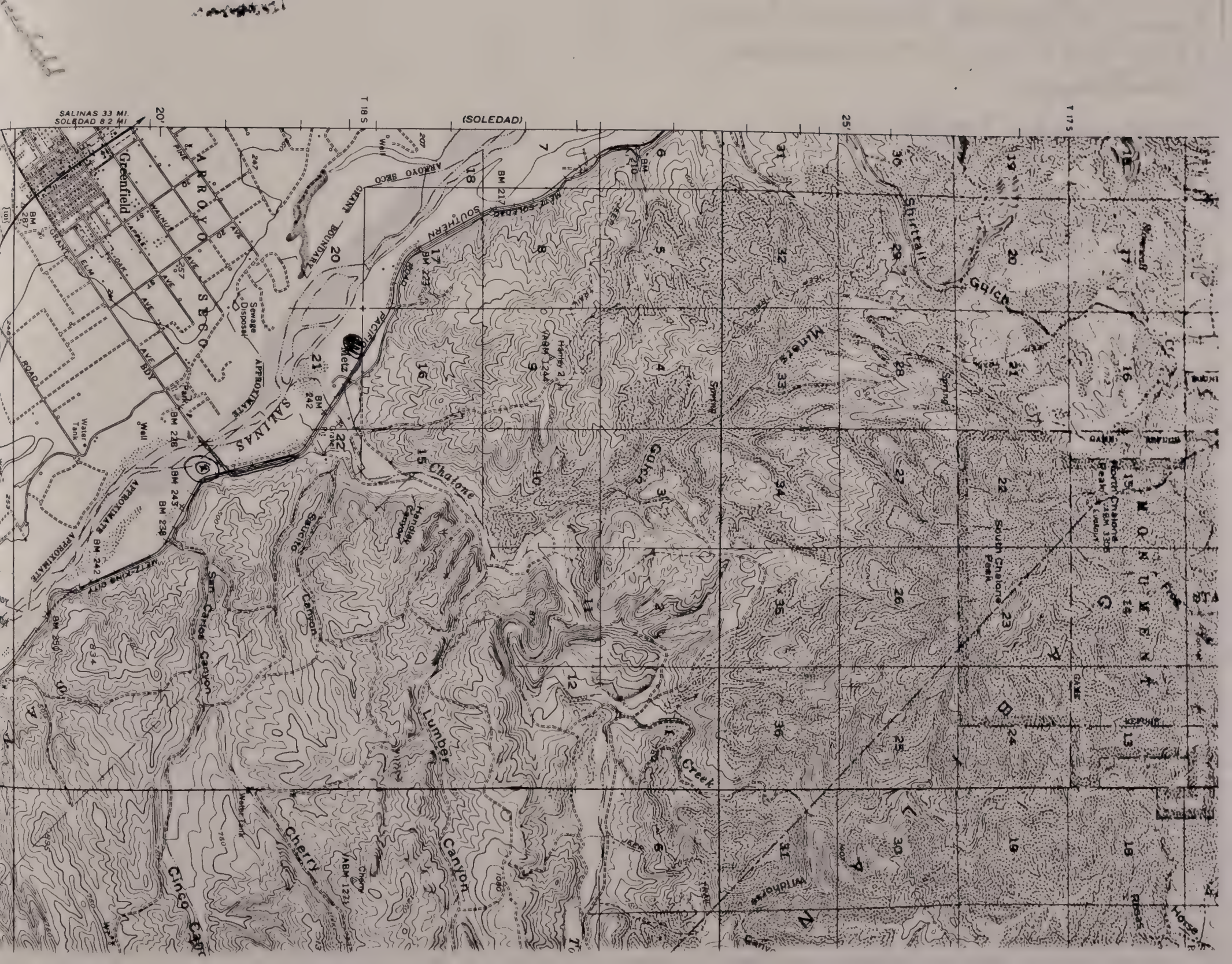
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I make H's

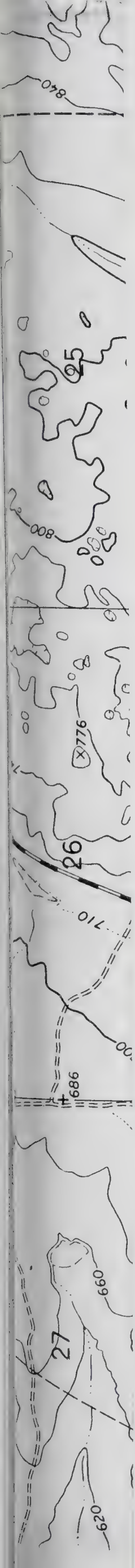
D. heer. goldmani
Dunes, E bank Salinas River
1.2 mi N + 2.1 mi E Greenfield
Monterey Co
Greenfield Topog Sheet



I making H.A.



D. cal saxatilis
0.8 mi E. Dales
Tehama Co
Dales Topog Sheet



Dales



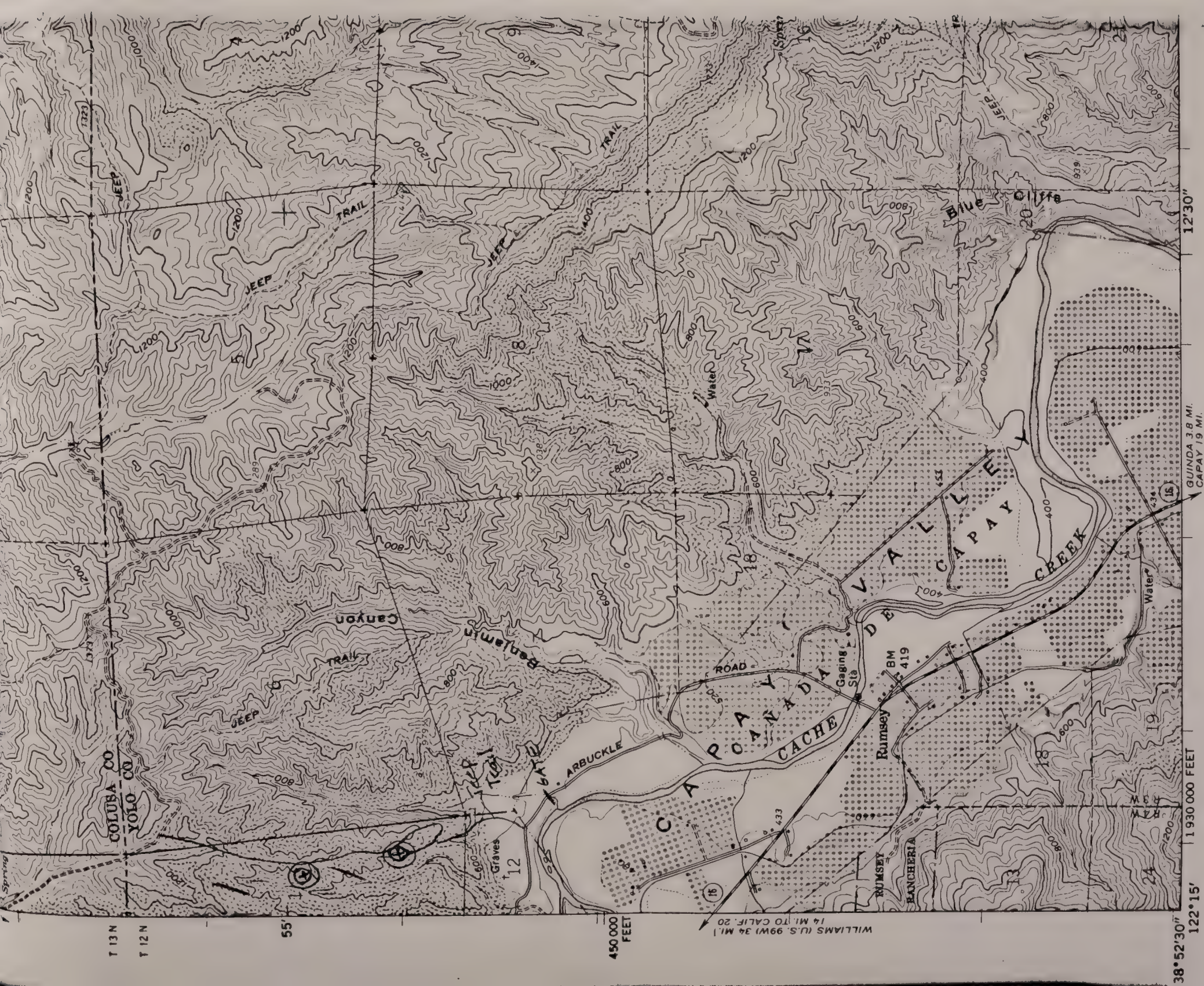
D. cal. cal.

1.6 mi N + 0.5 mi W Ramsey

Yolo Co

Ramsey Topog Sheet

Ramsey



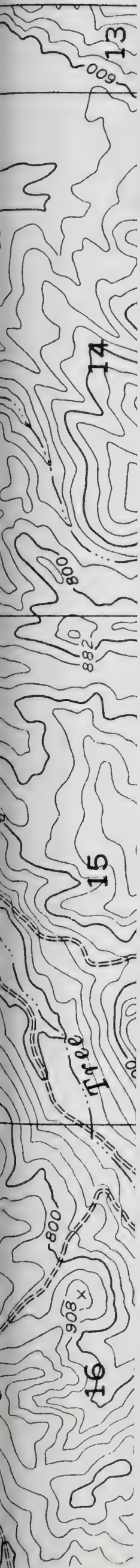
Mapped, edited, and published by the Geological Survey

D. her. tularensis

12.5 mi S + 0.5 mi E Tracy

San Joaquin Co.

Lone Tree Creek Topog Sheet



Lone Tree Creek



10 MI. TO CALIF. 33
(SOLYO)

32°30'

T. 4 S.
T. 5 S.

D. agilis agilis

4.7 mi S. + 1 mi E Terra Cotta =

3.2 mi from Carrizo St. on
Main Deirde Rd.

Riverside Co.

Elsinore Topog Sheet



Elson

D. simulans (?)

0.8 mi E Devore

San Bernardino Co

Devore Topog Sheet

Devore

Elisavinda





D. agilis / sim.

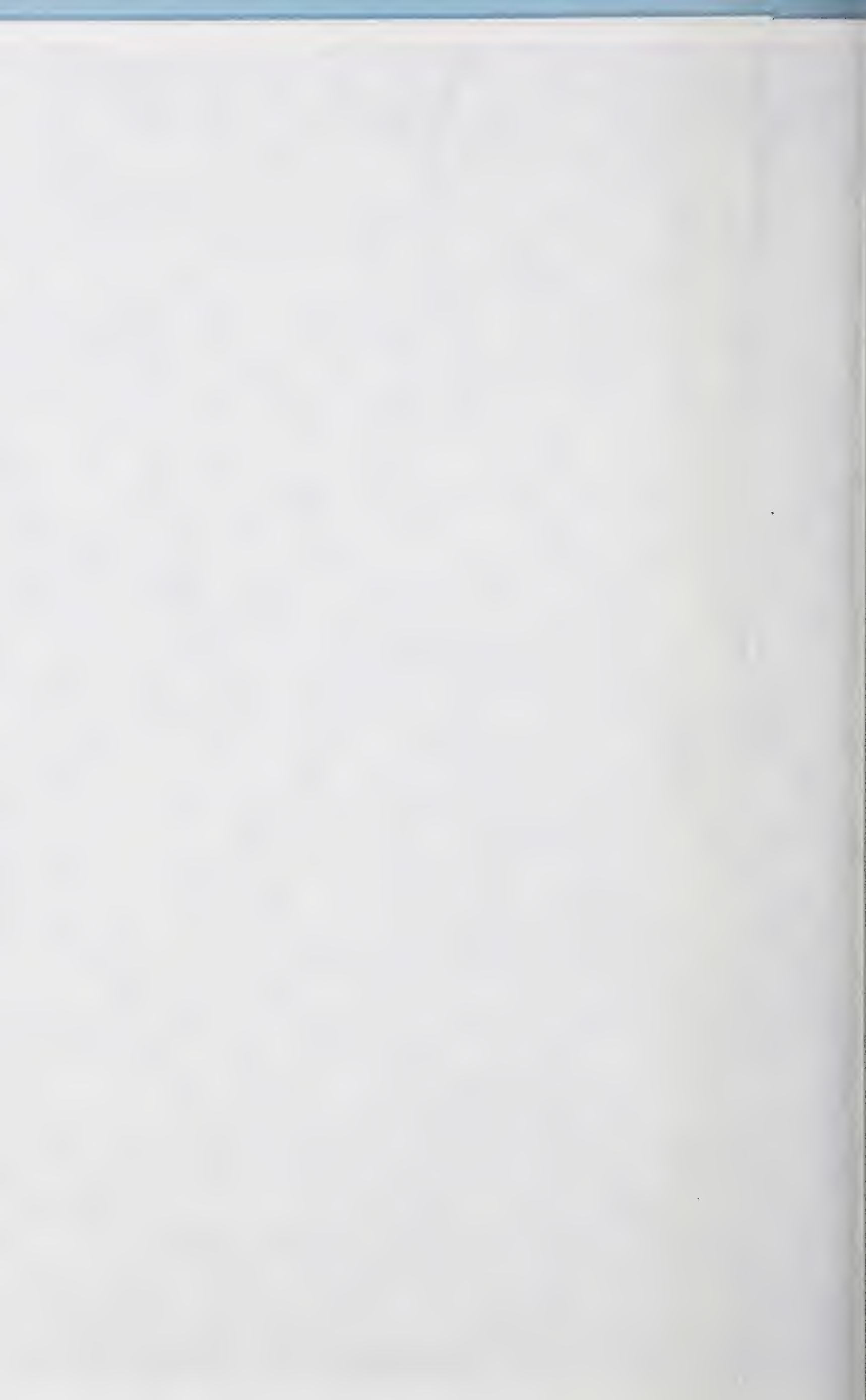
0.9 mi E + 2.0 mi N Eden Hot
Springs

Riverside Co.

El Cusco Topog Sheet

El Cusco





D. sim. cal
1 mi N Calverton
Riverside Co

~~Col~~

Calverton Topog Sheet



Calverton

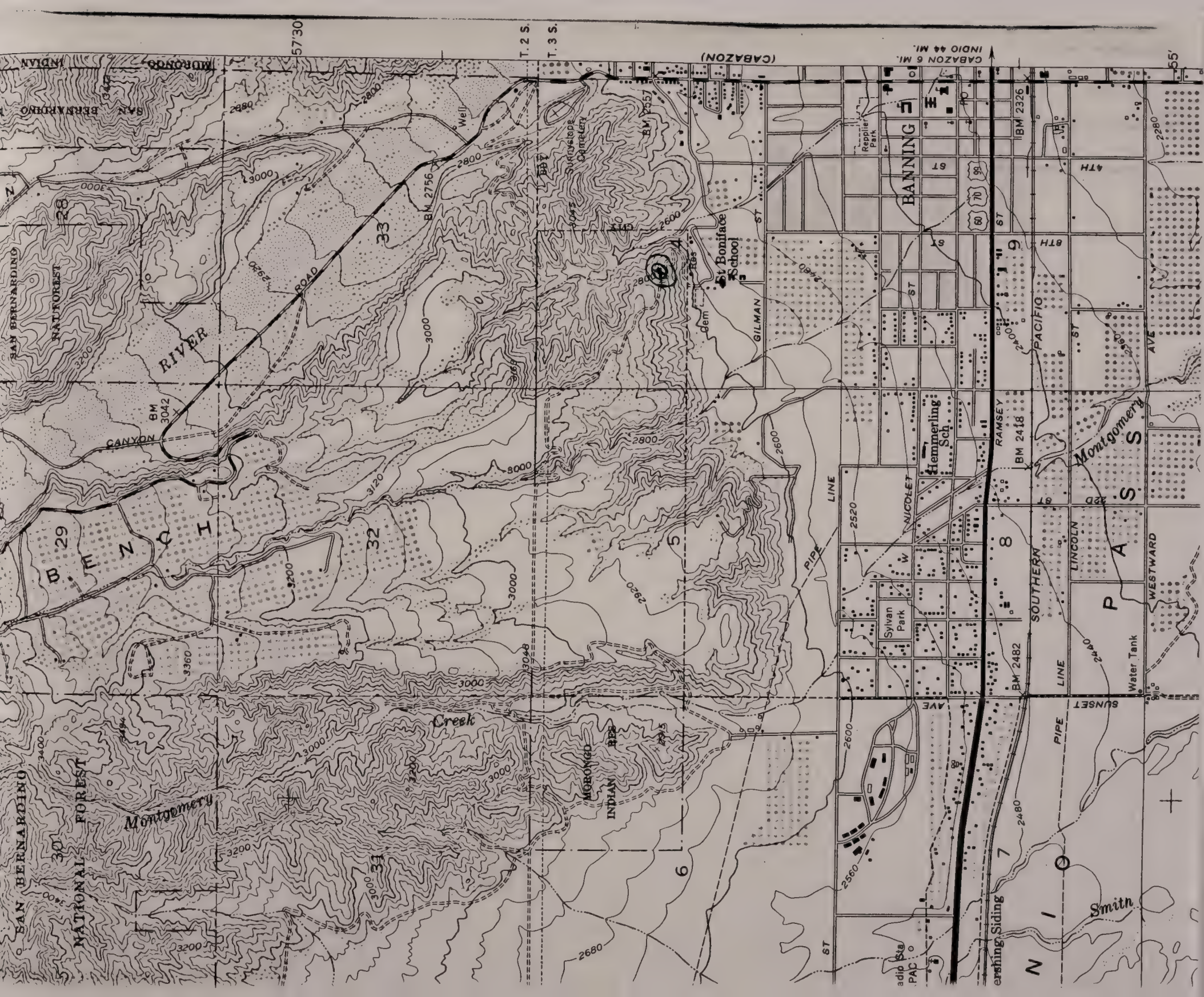


D. agilis

1.5 mi N + 0.5 mi W. Banning
Riverside Co.

Beaumont Topog Sheet





Beaumont

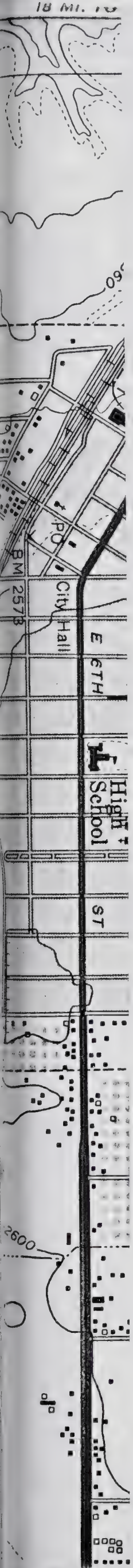
D. agilis

3.2 mi N + 0.5 mi W Beaumont

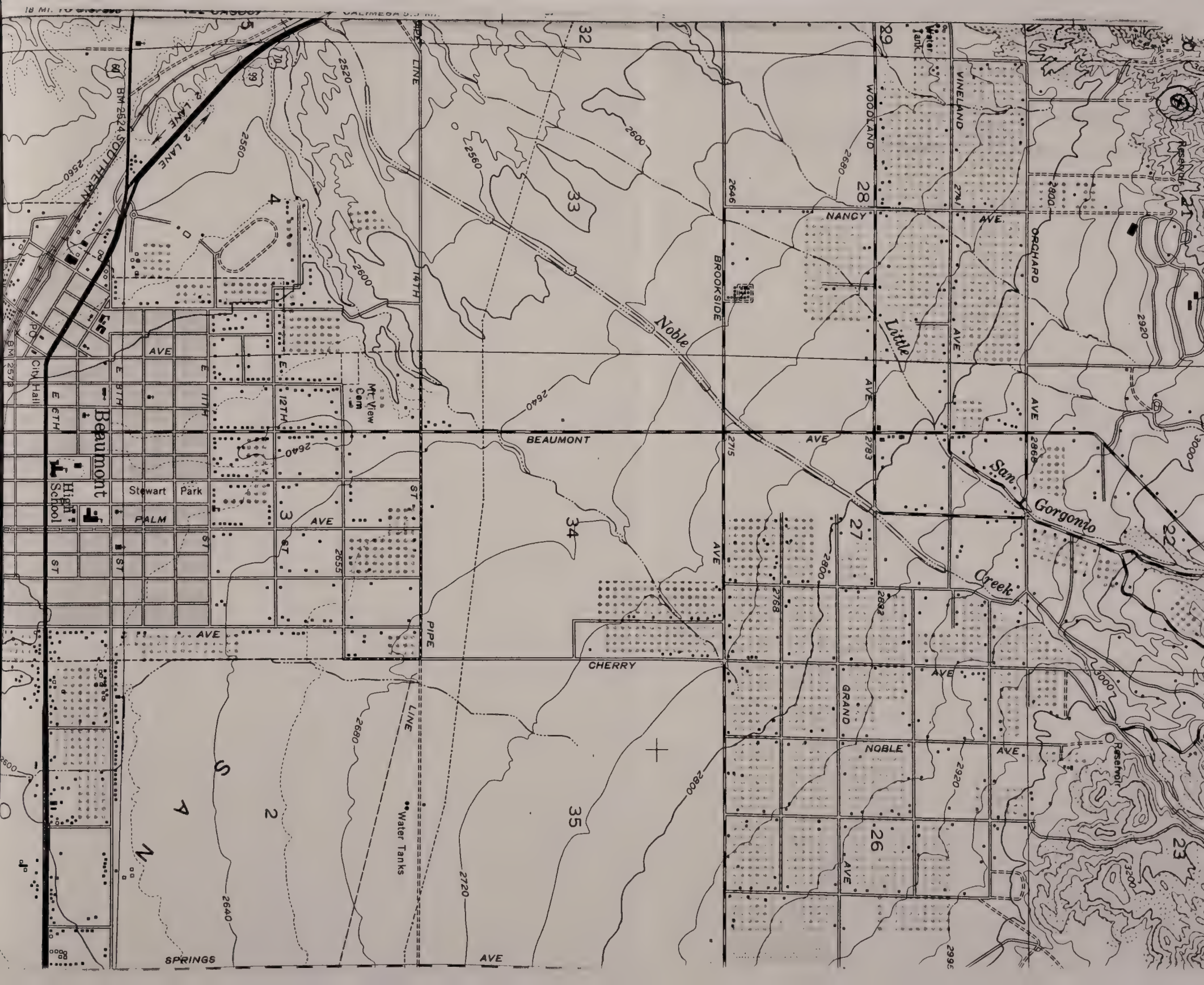
Riverside Co

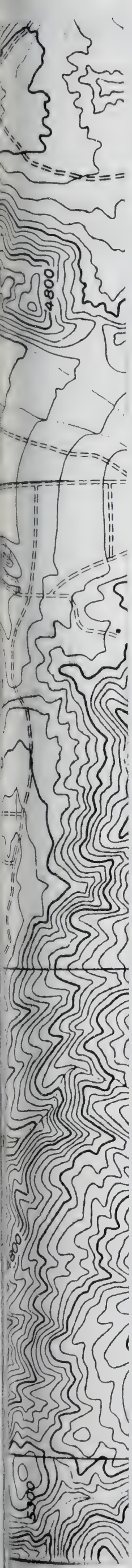
Beaumont Topog Sheet

Beaumont



Beaumont





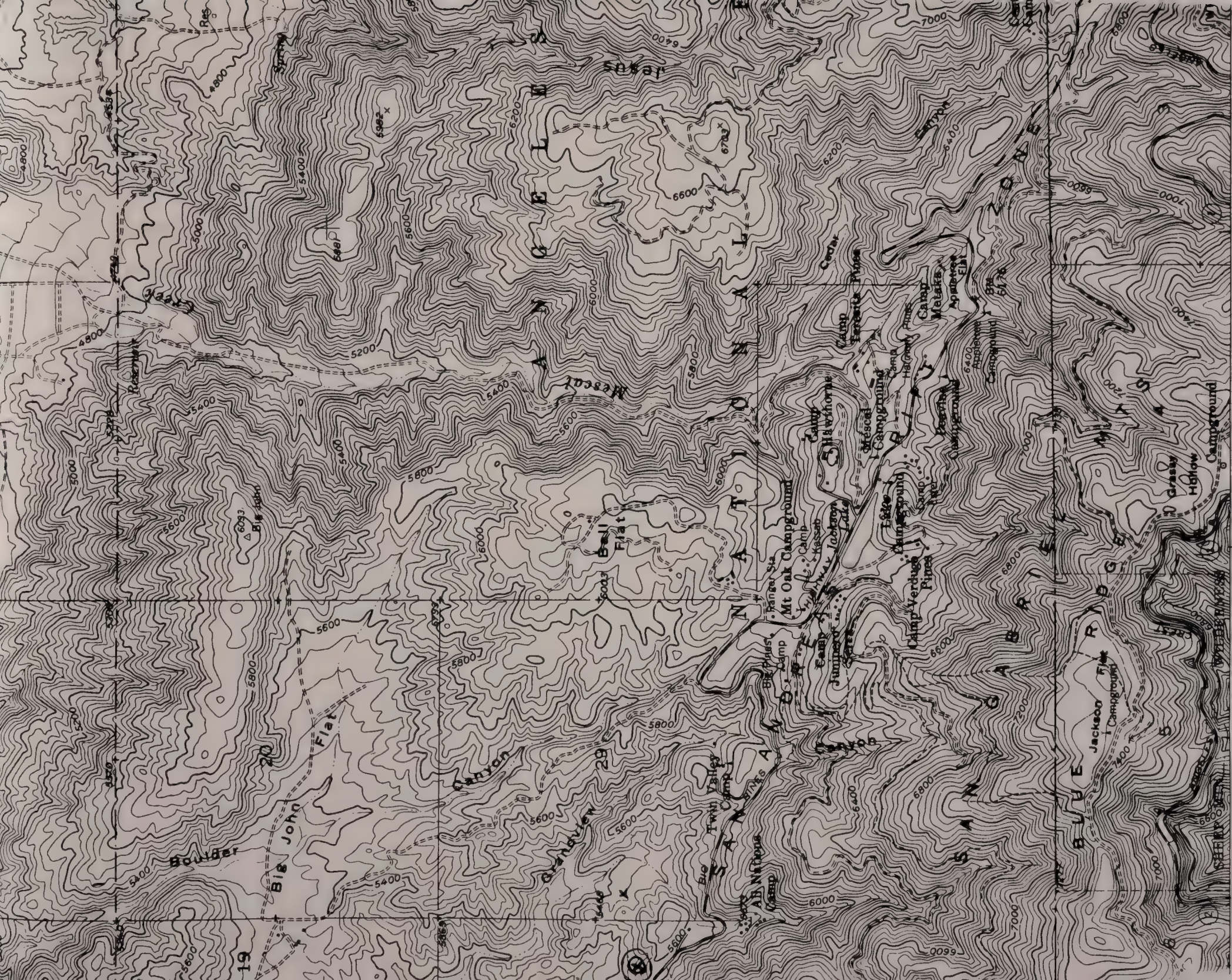
D. agilis agilis

1.6 mi S + 1.2 mi E Largo Vista

Los Angeles Co.

Mescal Creek Topog Sheet

Mescal Creek



D. pan. mohavensis

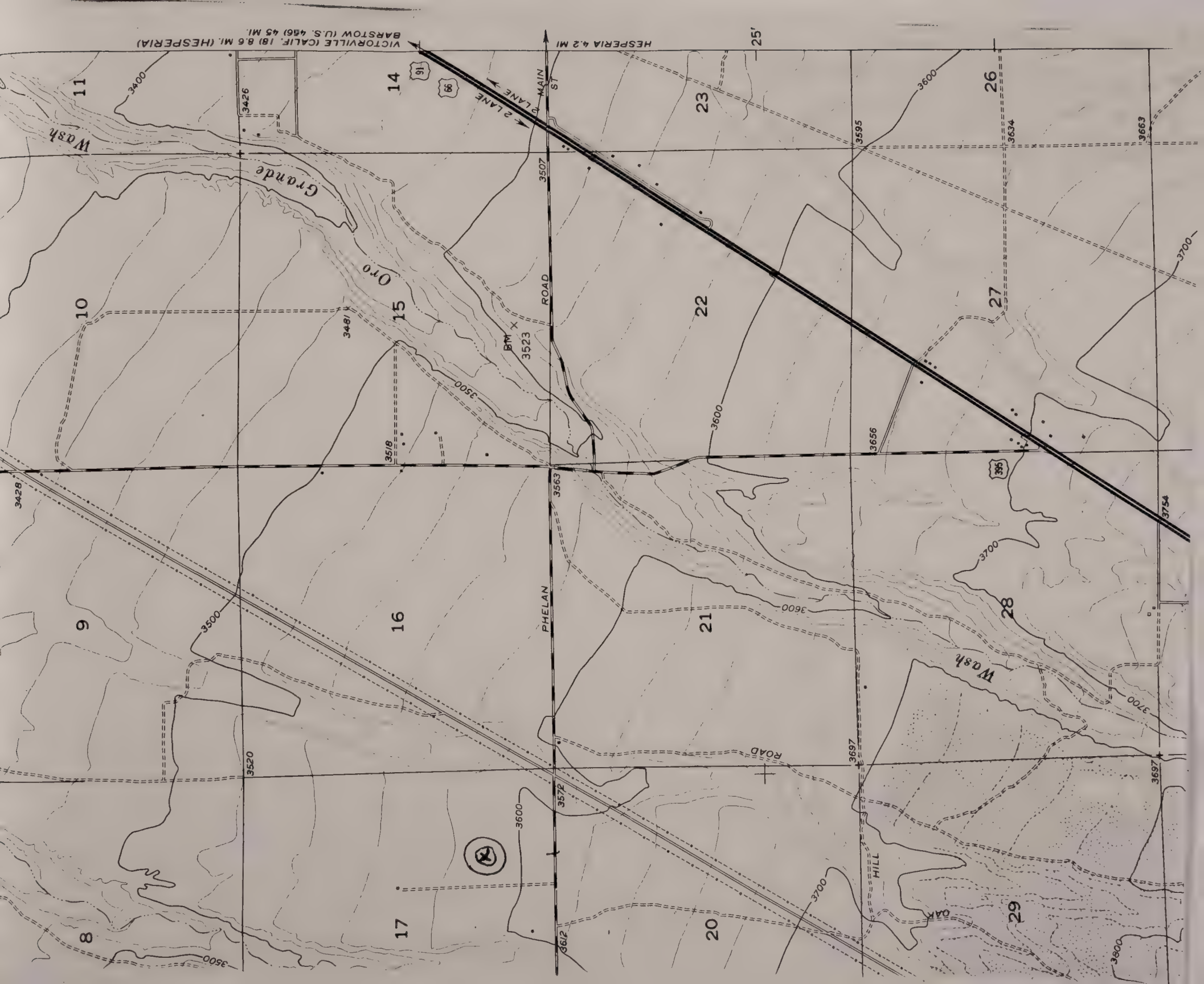
8.7 mi E + 0.2 mi N Phelan

San Bernardino Co

Baldy Mesa Topog Sheet



Baldy Mesa



HESPERIA 4.2 MI.
VICTORVILLE (CALIF. 18) 8.6 MI. (HESPERIA)
BARSTOW (U.S. 456) 4.5 MI.



Wash

Wash

OAK HILL

PHELAN ROAD

2 LANE ROAD
MAIN ST

14

23

22

21

20

27

28

29

15

16

17

11

10

9

8

26

395

96

3518

3481

BM 3523

3563

3572

3600

3600

3600

3700

3700

3800

3700

3754

3663

3634

3595

3656

3697

3697

3426

3428

3400

3500

3520

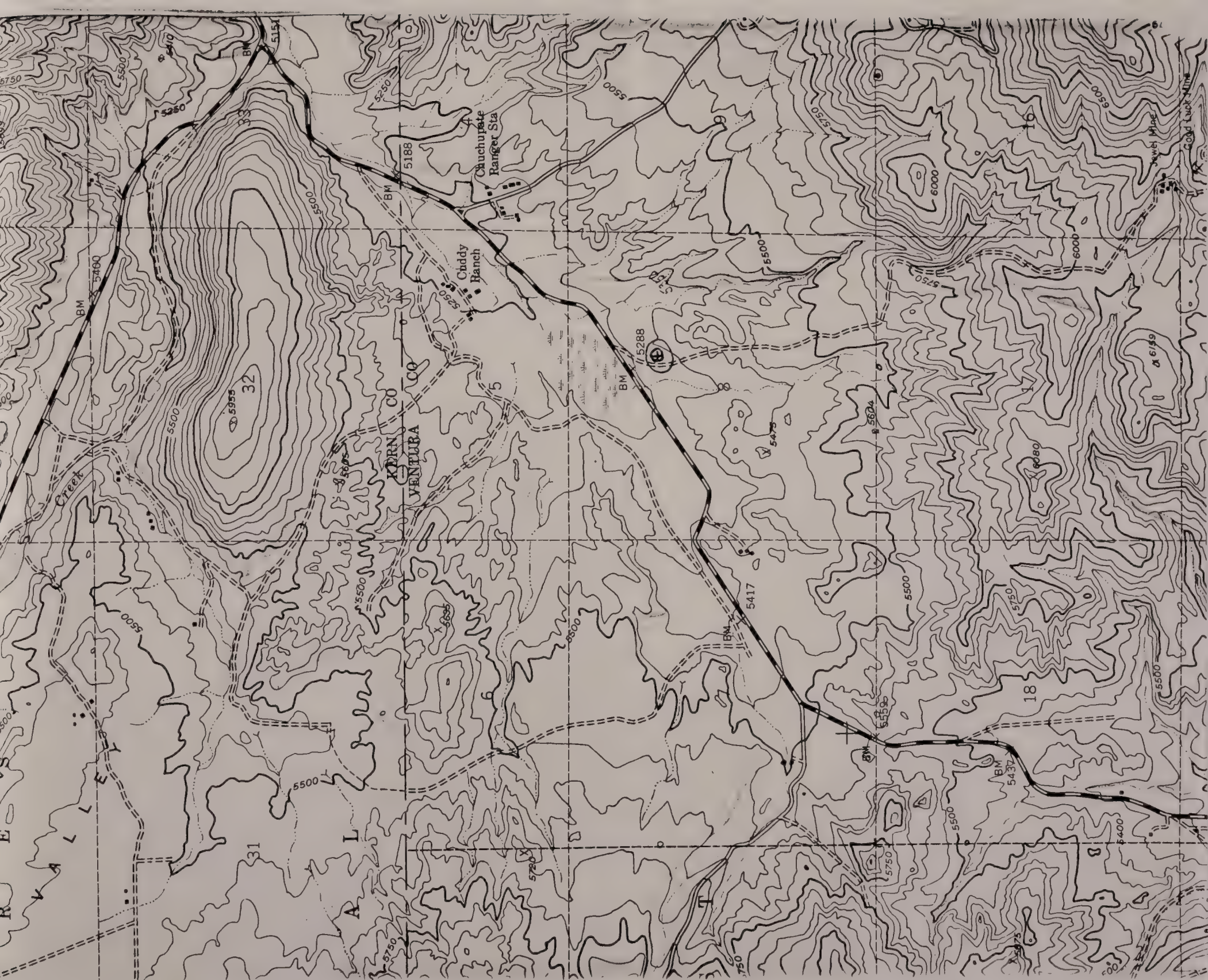
3500

D. aguil. perplexis

2.5 mi E + 3.2 mi N Stauffer
Ventura Co.

Cuddy Valley Topog Sheet

Cuddy Valley



D. agil. agil.

6.1 mi W + 0.4 mi SW Hecker Springs

Ventura Co

Old Man Mountain Topog Sheet



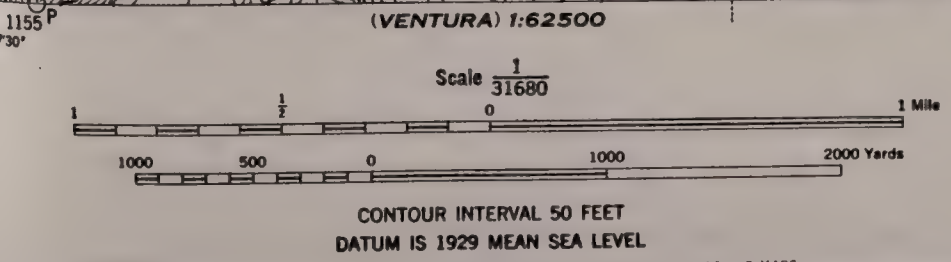
1155 P

27°30'

1



MVZ - MAP COLLECTION
Reference Only



19TH ENGINEER REPRODUCTION PLANT, PORTLAND, OREGON
ANS NO. 120381
EDITION OF 1944
UNIVERSITY OF CALIFORNIA
MUSEUM OF VERTEBRATE ZOOLOGY
APR 6 1946
old man mtn
(VENTURA) 1:62500

D. agilis agilis

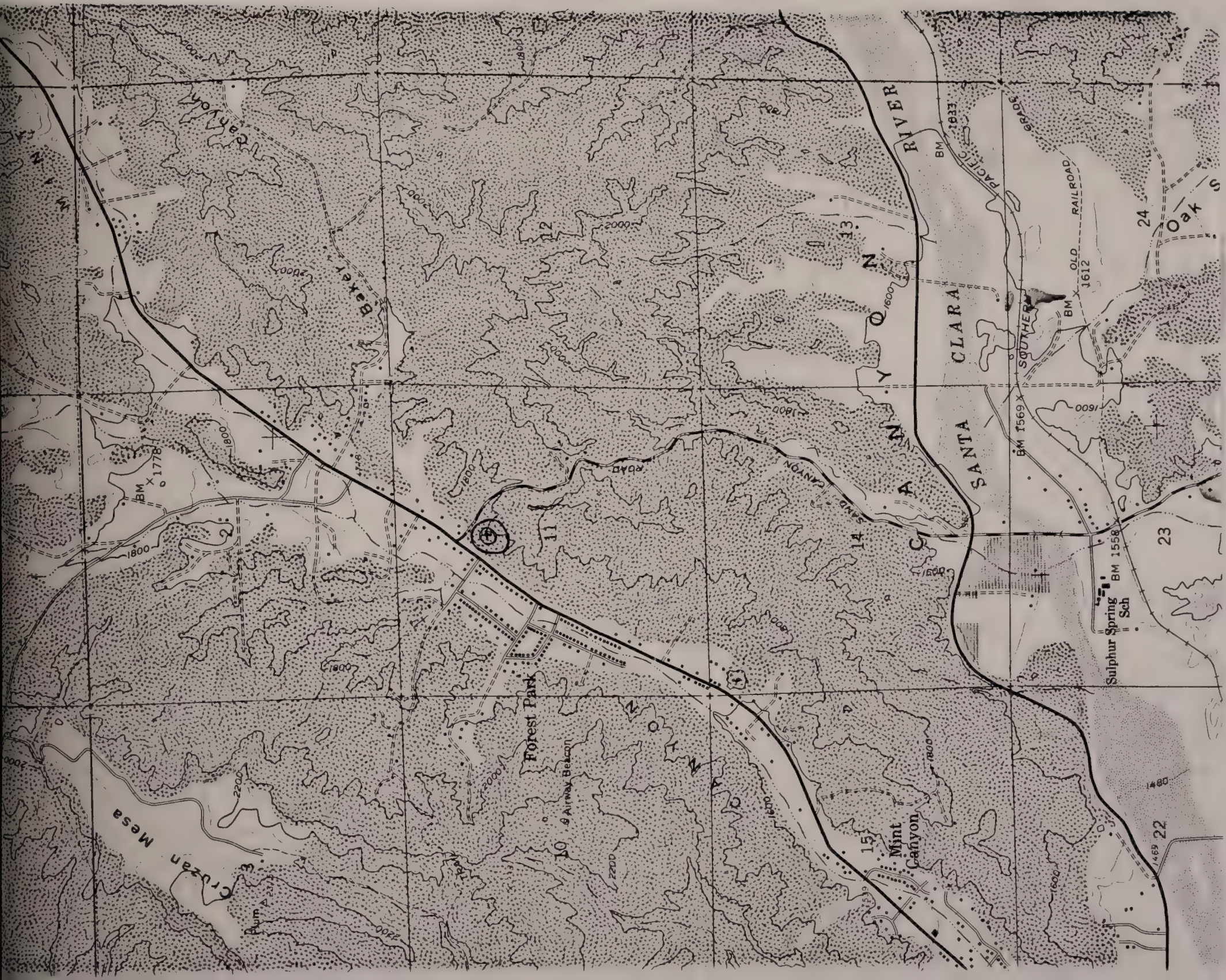
West slope Sand Canyon

2 mi N Santa Clara River

Los Angeles Co.

Mint Canyon Topog Sheet

Mint
Canyon

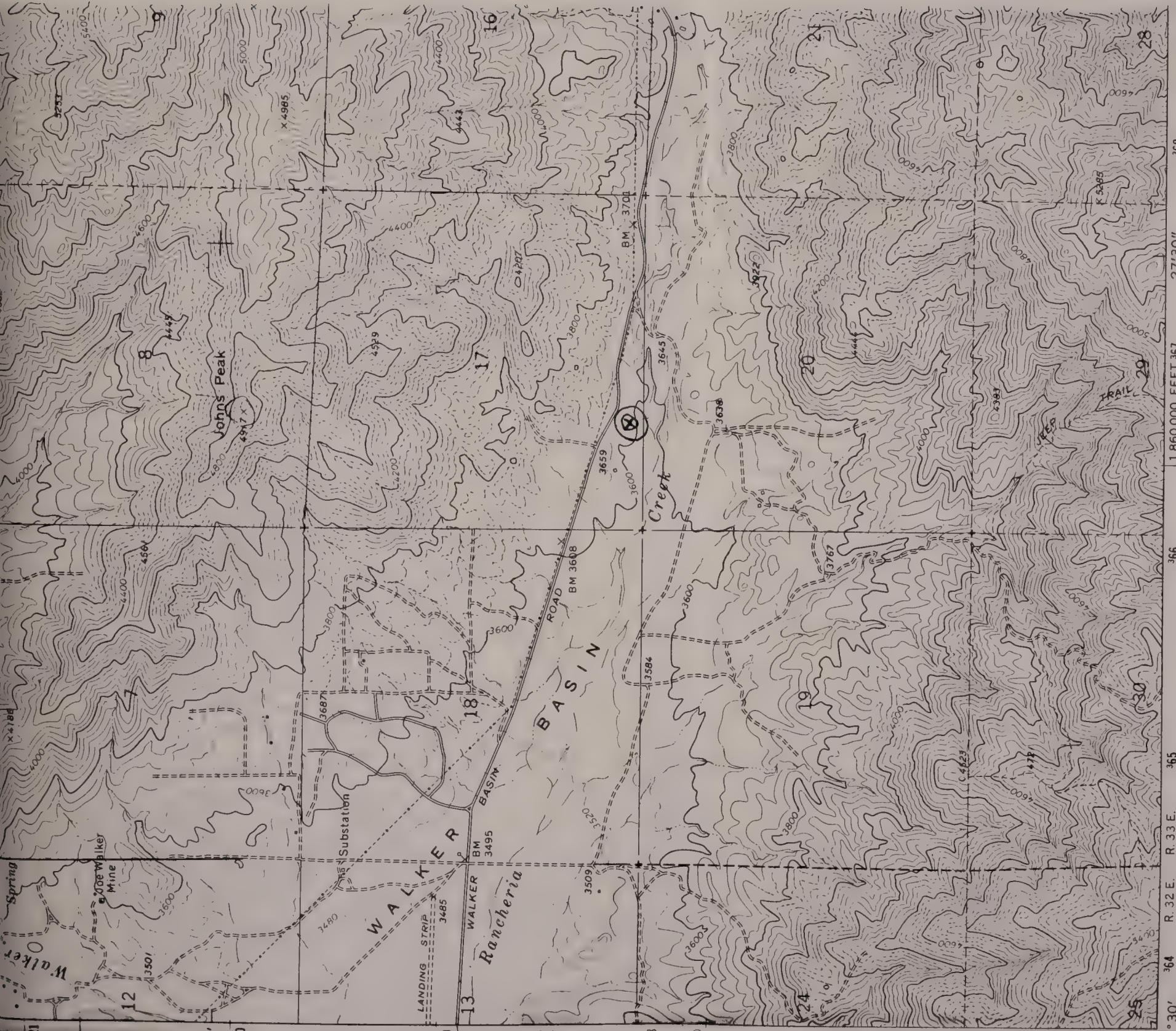




D. agilis perplexis
Walker Basin, 1.25 mi S
Johns Peak

Kearns Co

Piute Creek Topog Sheet

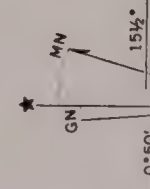


Maped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1970. Field checked 1972

Projection and 10,000-foot grid ticks: California coordinate



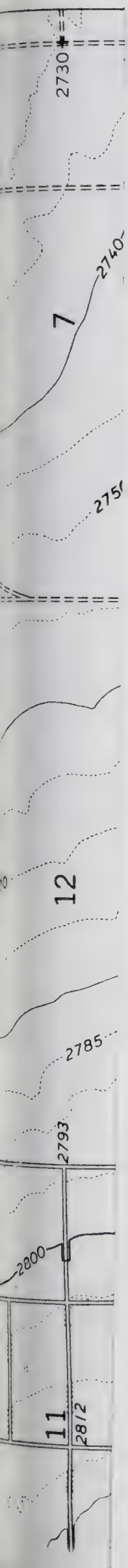
Piute Peak

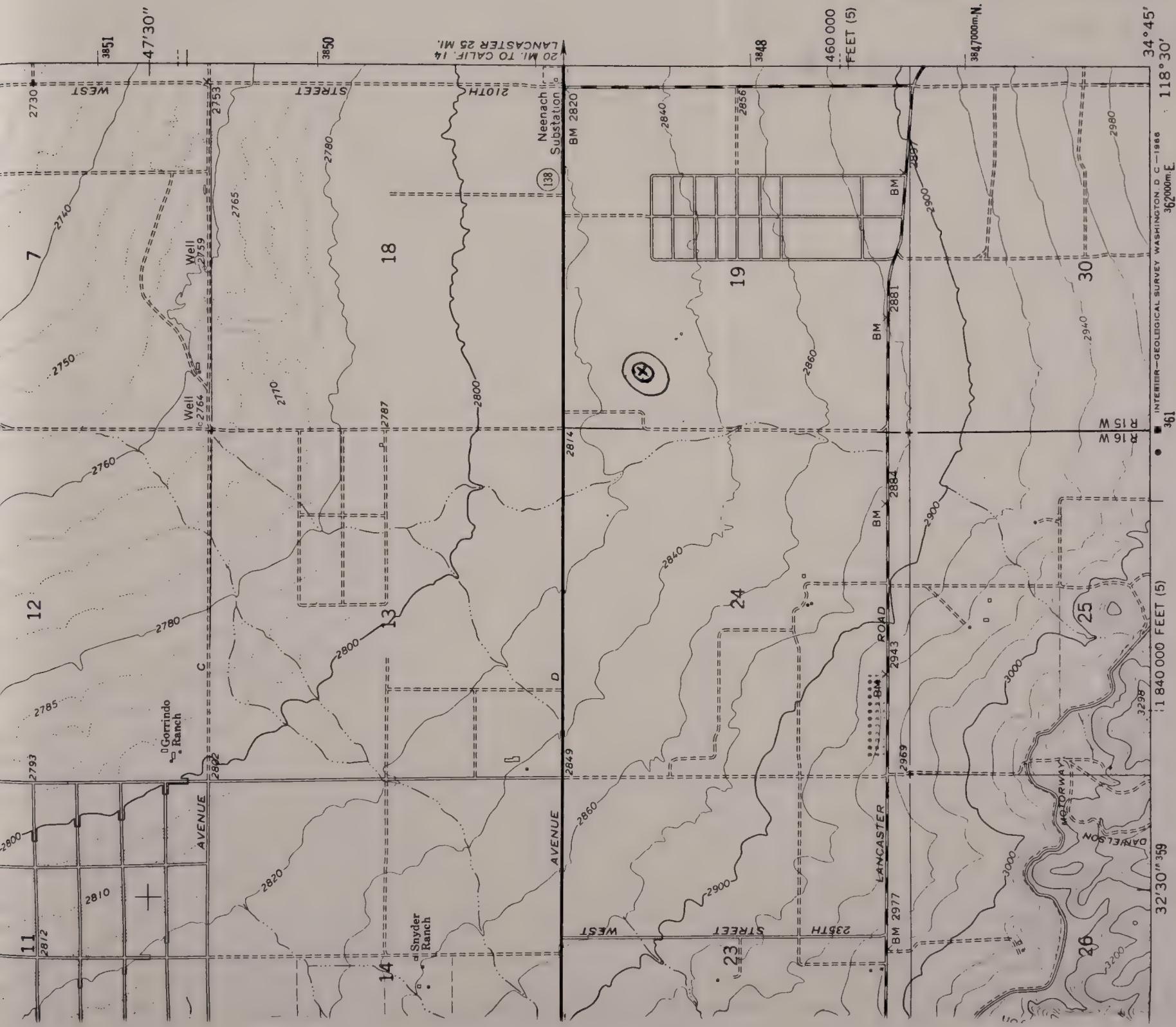
D. pan. mohav

2.5 mi N + 12 mi W Fairmont

Los Angeles Co.

Neenach School Topog Sheet





1 MILE

FEET

ROAD CLASSIFICATION

Heavy-duty

Light-duty

Medium-duty

Unimproved dirt



State Route

MUSEUM OF VERTEBRATE ZOOLOGY
University of California



Neenach School

NEENACH SCHOOL CALIF

MV7 - MAP COLLECTION

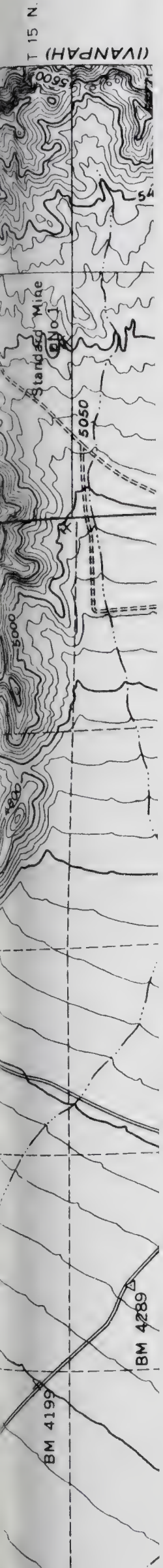
(LAKE HUGHES)
2353 III NW

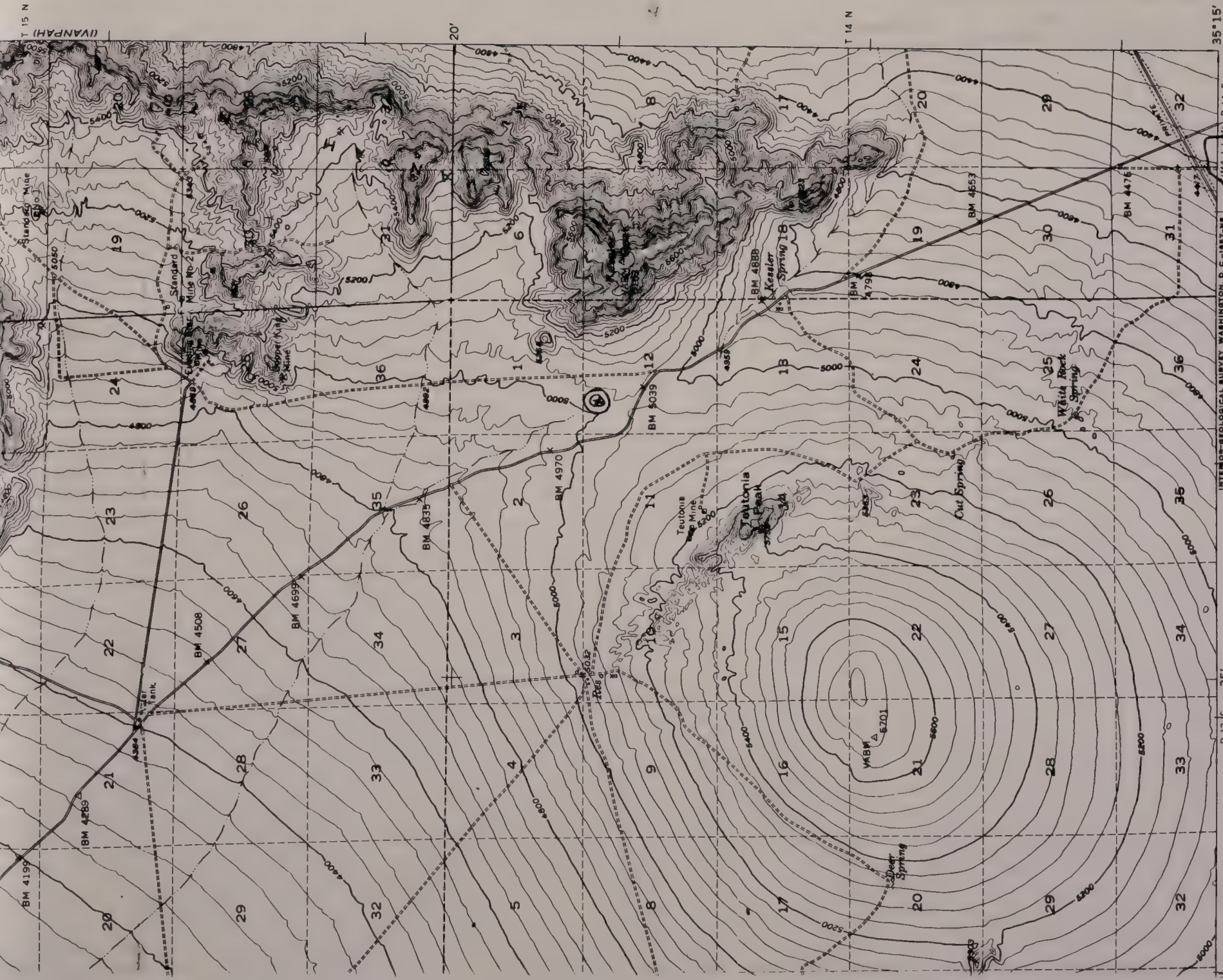
D. pan. caudatus

2 mi W and 5.5 mi N Lima

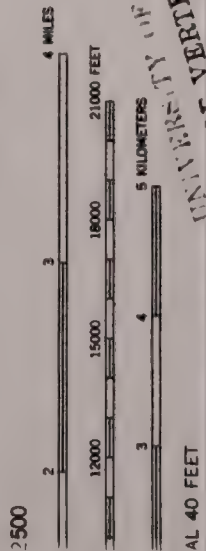
San Bernardino Co

Mescal Creek Topog Sheet





MVZ - MAP COLLECTION
General Use



ROAD CLASSIFICATION

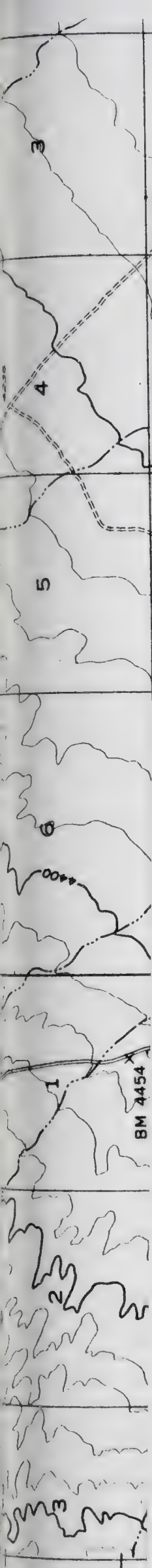
Heavy-duty _____
Light-duty _____
Unimproved dirt _____

U.S. Route

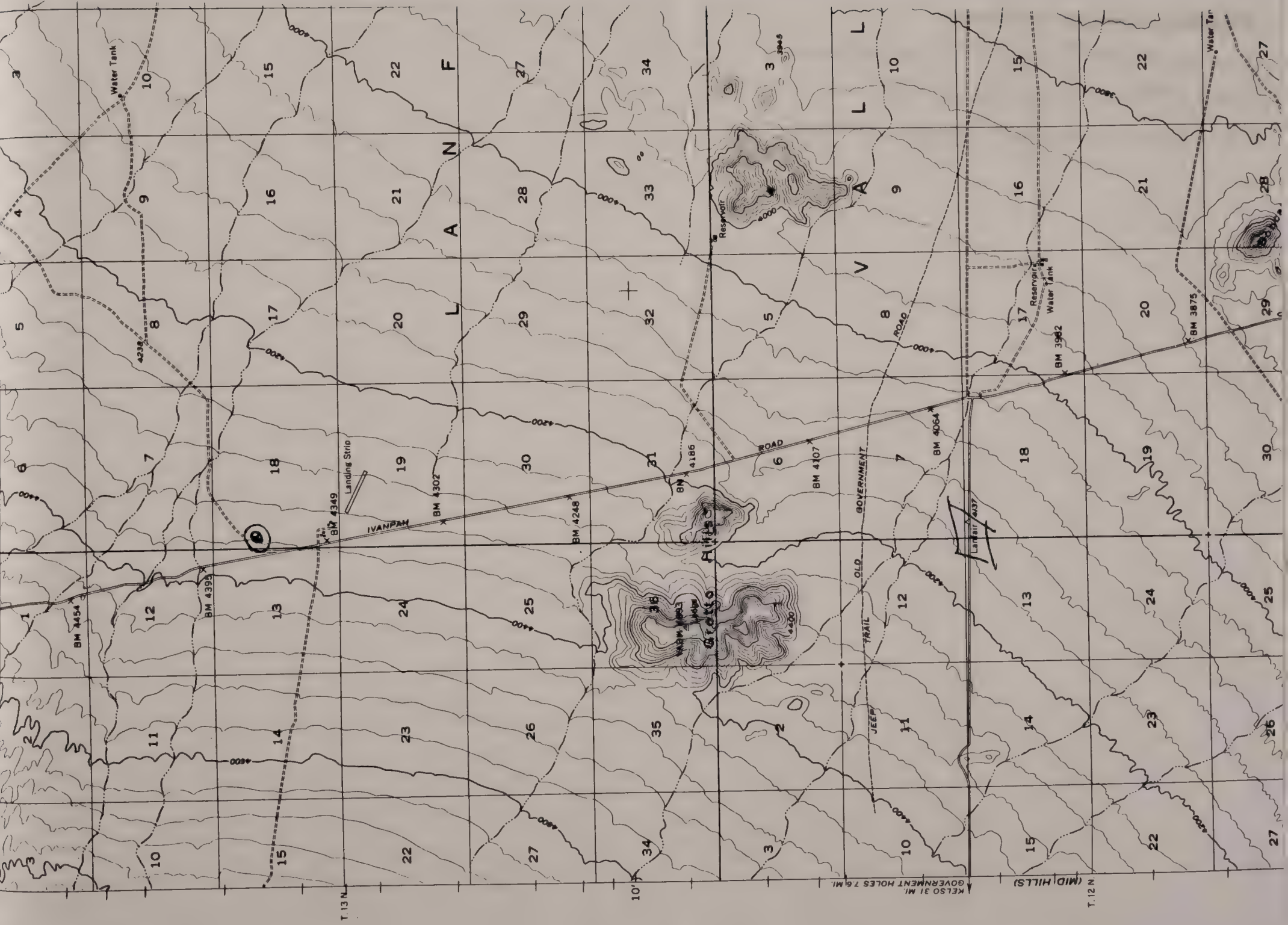
UNIVERSITY OF CALIFORNIA
VERTEBRATE ZOOLOGY

MID HILLS

McNeal
pan-82

A vertical strip of a topographic map is visible on the left side of the page. It shows contour lines, a dashed line, and several numbers: 3, 4, 5, 4400, and 2. A benchmark is marked with an 'x' and labeled 'BM 4454'.

D. pan. Caudatus
6 mi N + 0.5 mi E Lanfair
San Bernardino Co
Lanfair Valley Topog Sheet



3 1/2 mi. S and 1/2 mi. W.

Tombler Peak

San Luis Obispo Co



ORAMA HILLS)

CALIFORNIA
ELKHORN HILLS QUADRANGLE
GRID ZONE "G"

WAR DEPARTMENT
CORPS OF ENGINEERS, U. S. ARMY

13°

119°37'30"
35°07'30"

1520

35'

1530

(FELLOWS)

MC KITTRICK 20 MI.

8.7 miles
to power
lines

TEMBLOR
3566

5 Miles

8000 Yards

1345

7000

6000

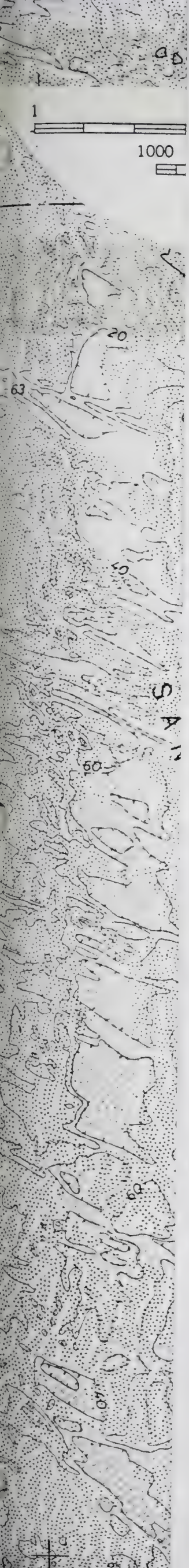
5000

05'

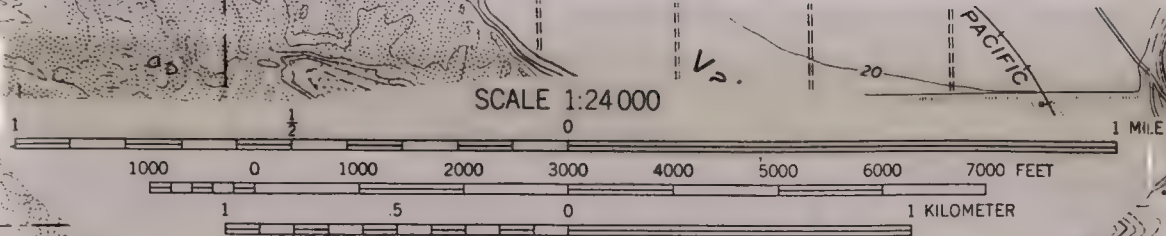
MC KITTRICK 30 MI.

B.M. TRAVER
2121 AND SONS

3 1/10 m. W. and 1/2 m. N. Temblor Peak, Elkhorn Plains, San Luis Obispo Co. Calif. 2500 ft



Collander Substation
San Luis Obispo Co.

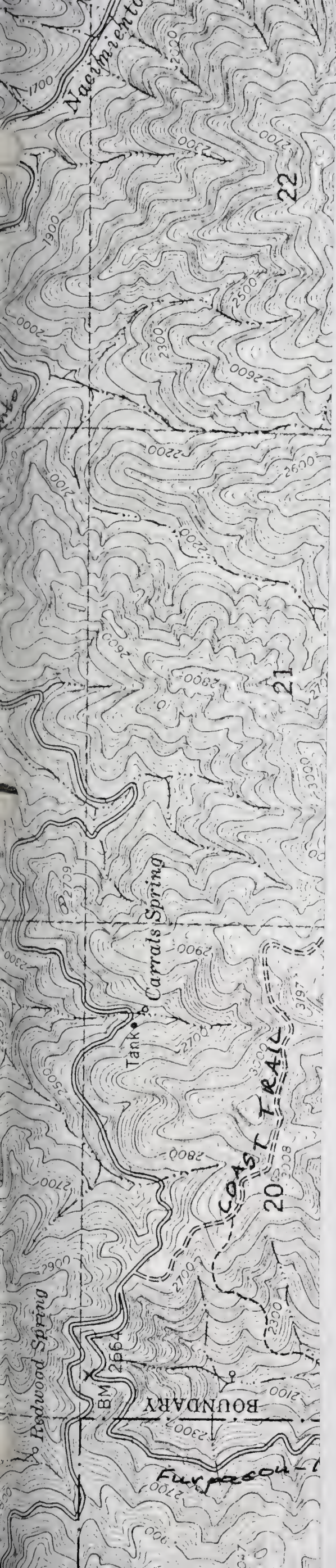


CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS



Callender Substation 1/4 mi S. Hwy 1 + 3 mi E. Railroad T12N R14E
Nipons Mesa S.D. Co. Calif.

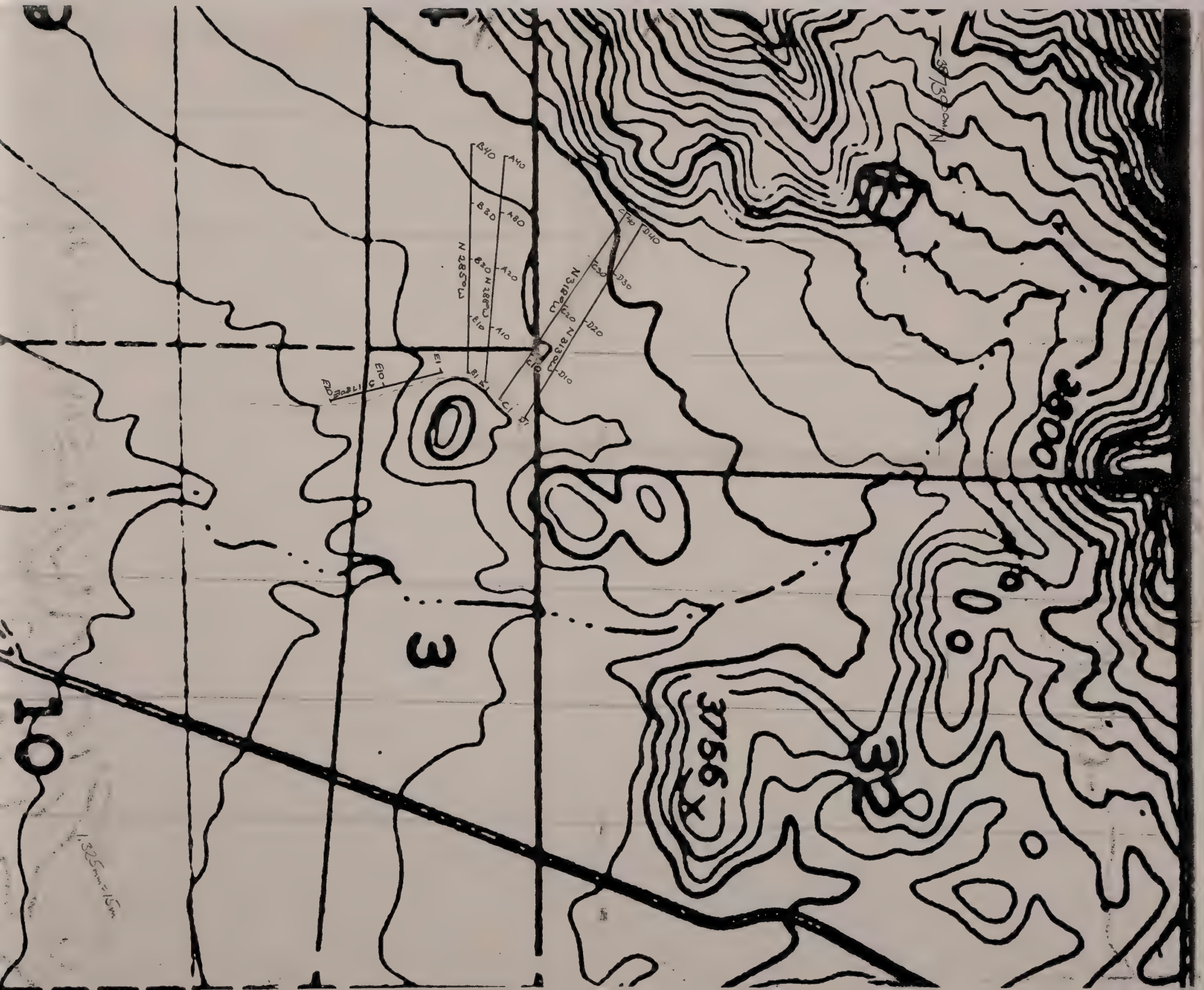
1.2 mi S.
Chalk Peak,
Monterey Co.



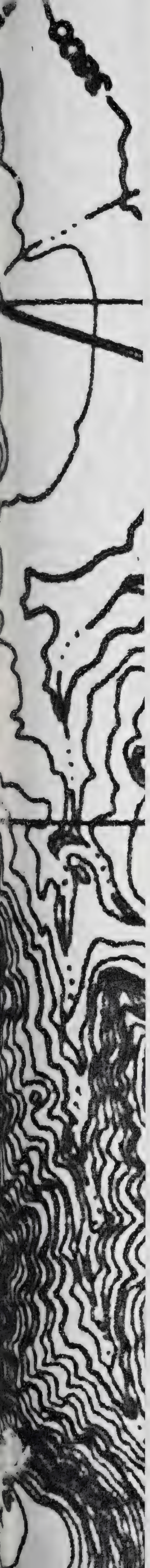


1.2 miles S. Chalk Peak, Monterey Co., Calif. 32505

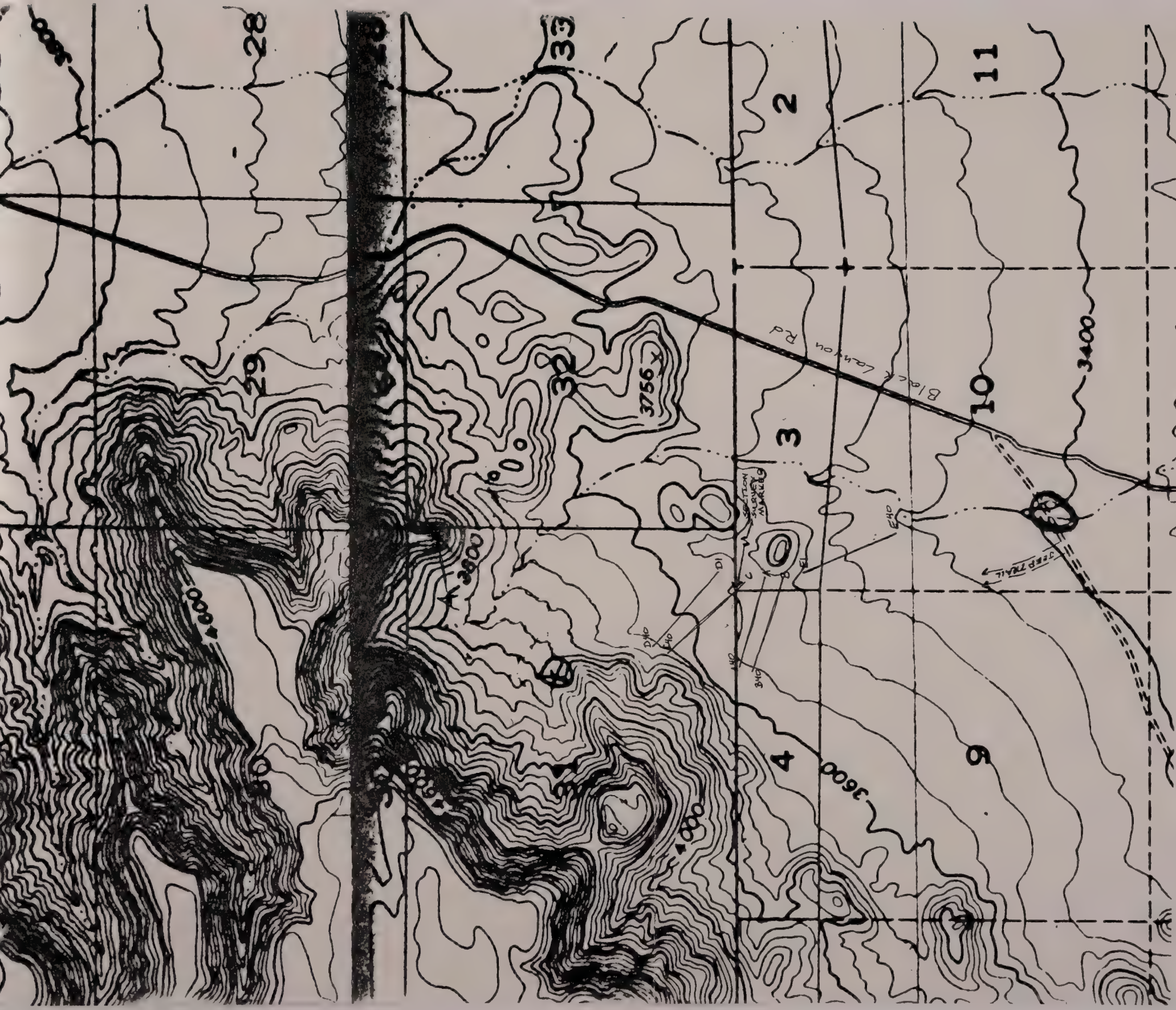
6 mi. S. Grants Well



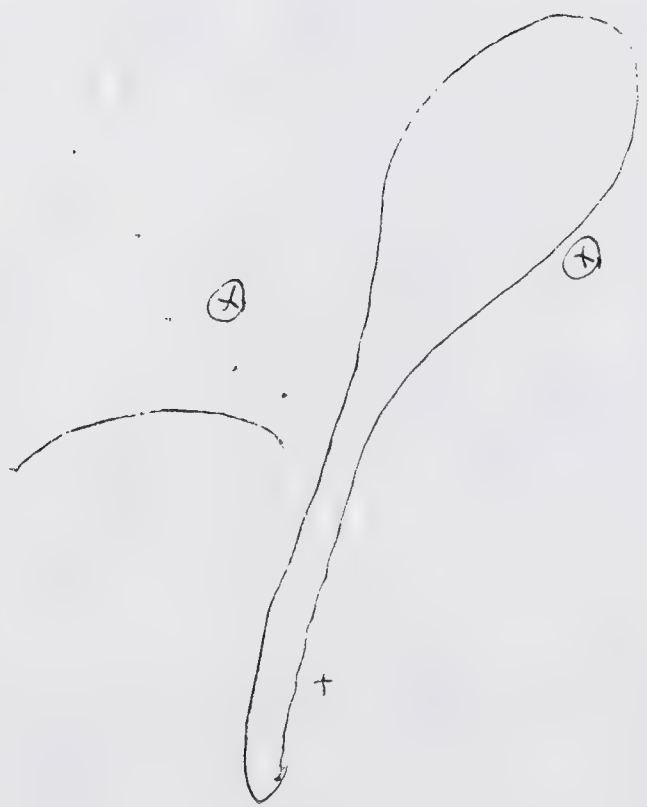
D. pan 6mi S. Granite Well



D. pan 6mi S. Granite Well



6 Mi. S. Granite Wells, Providence Mtns, San Bernardino Co., Calif.



D. pan W. Slope Walker Pass

devide
dauide
diuide

...

Jackass Spring

2. pm 1.8 + 3.0 mi NE Jackass Spring

D. pan W. Slope Walker Pass

devide
dauide
diuide

...

—

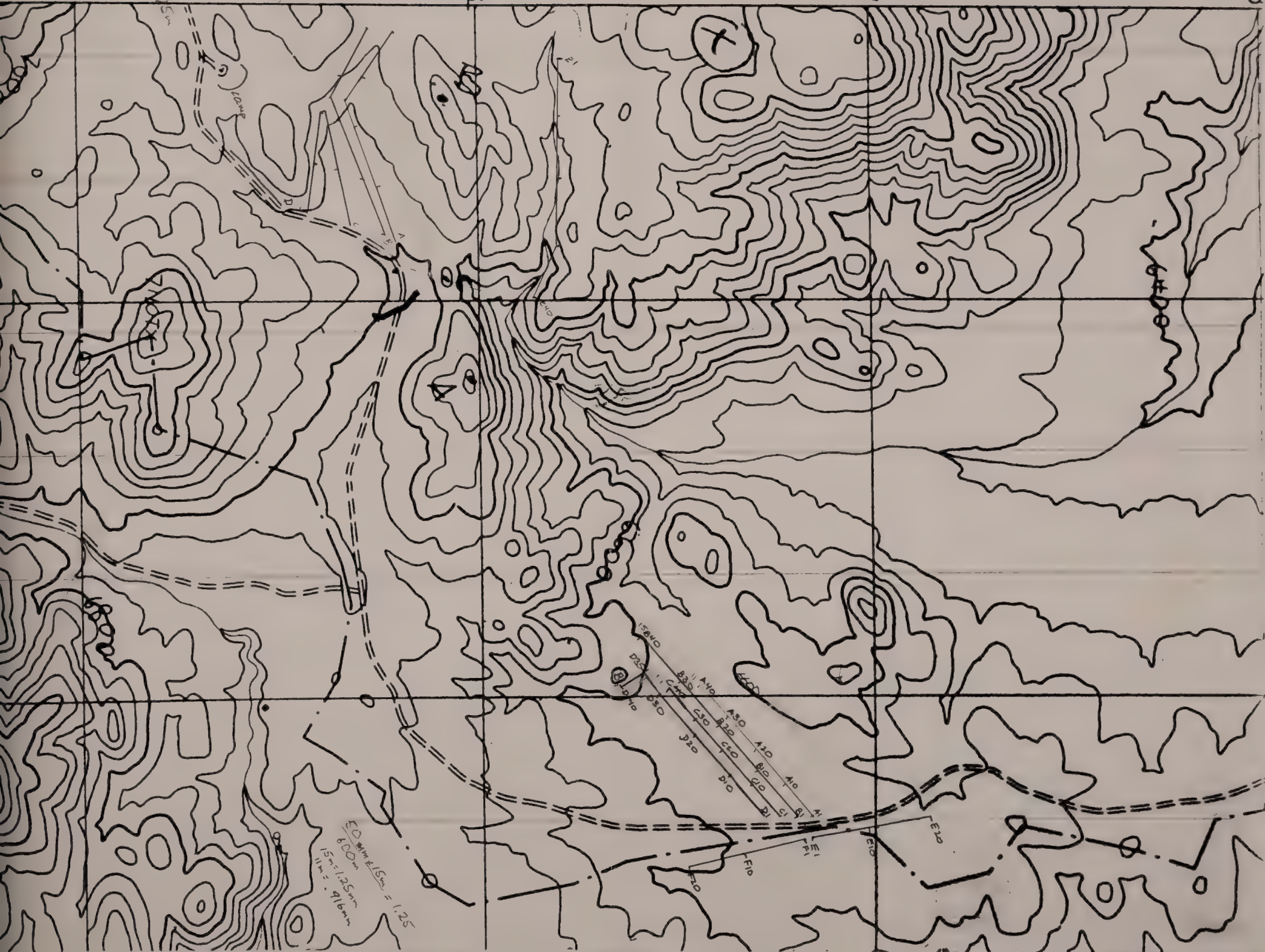
Harries Hill Quadrangle 7.5 min 1980

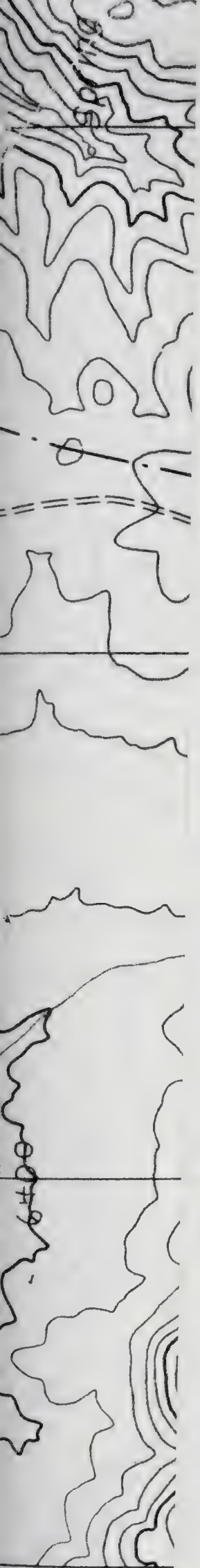
4045

4046

4047

4048

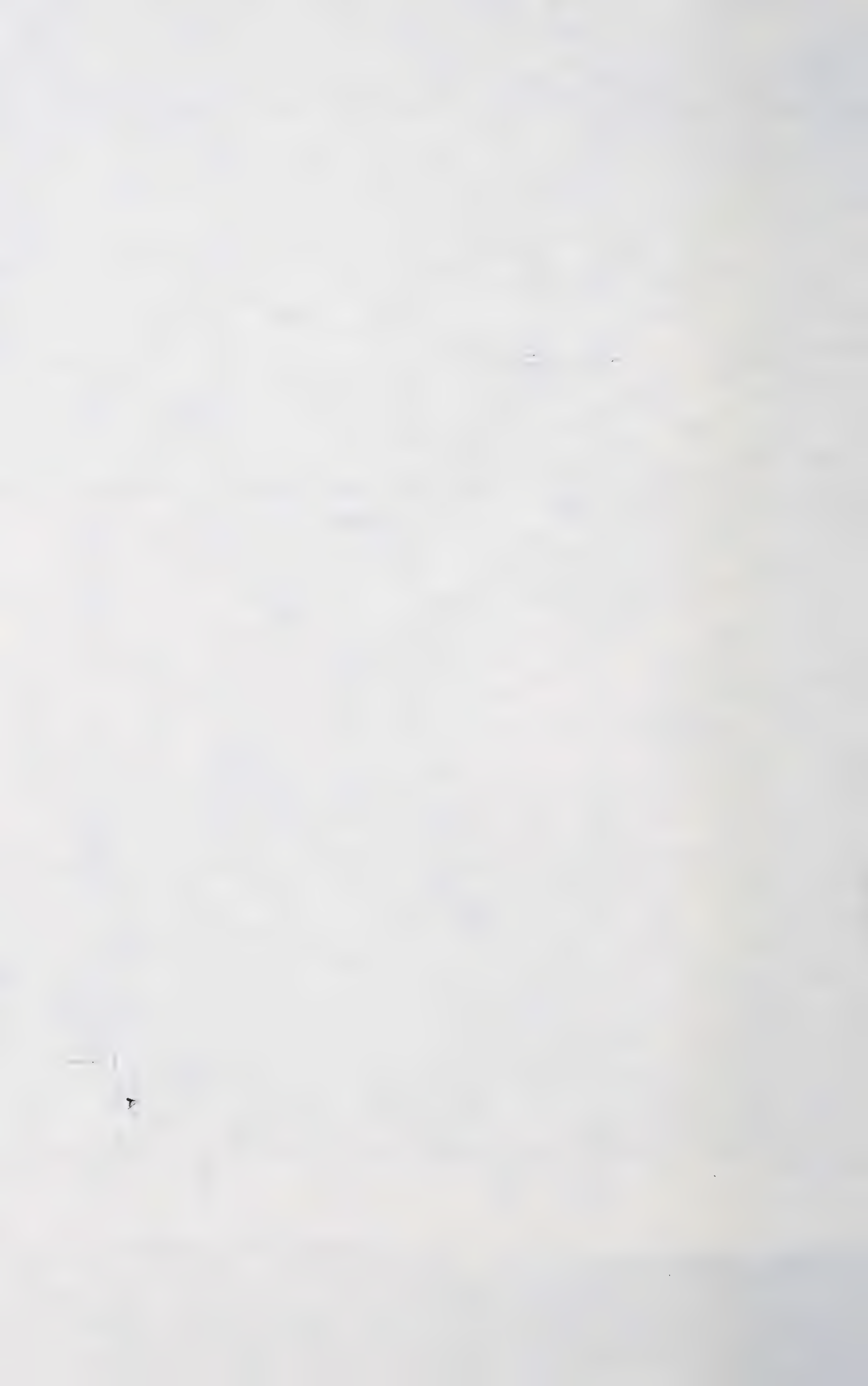


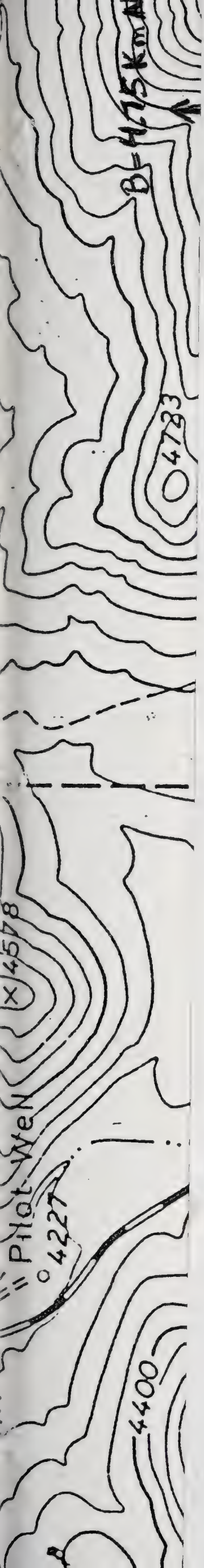


1.8 and 3.0 mi NE Jackass Springs

1.8 and 3.0 mi. NE Jackass Springs, Panamint Mtns., Inyo Co., Calif.







Walker Pass

13 31 05

